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ABSTRACT

Pilot testing was conducted on parts of the Occupational Exploration Program (OEP), a classroom program designed to enhance the career awareness and career understandings of seventh and eighth grade students through simulations, games, and small group and individualized activities. The Introduction to Occupational Exploration unit and three cluster packages representing the Trade and Finance, Health and Welfare, and Construction industries were implemented in more than twenty classrooms in two different school districts to pilot test the feasibility of using the program in regular classroom settings. Interviews were conducted and questionnaires were administered to both teachers and students using the OEP materials. For students the questions dealt with interest, use, and understanding. For teachers, the questions focused on classroom organization, management problems, and general appeal/quality of the materials. The data collected was compiled for the introduction and for each cluster package as total units and for each specific product within those units. For the cluster packages and for most of the specific products within them, results were highly positive. Students felt that the products were interesting and appealing; that they could, in general, easily read them; and that they were learning about various aspects of the occupations included in the materials. Results from teachers not only verified the student perceptions but also indicated that the program could be implemented in the classroom without much difficulty. (A section on trends analysis from the data collected in 1974-75 and appendixes containing evaluation instrumentation are included.) (TA)

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EVALUATION REPORT FOR THE OCCUPATIONAL EXPLORATION PROGRAM

Pilot Test 1975

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Winter, 1976

CE 014 294

ABSTRACT

This report contains a detailed summary of both the procedures used for evaluating the Occupational Exploration Program in 1975 and the results that were so obtained. The Occupational Exploration Program (OEP) is a development effort of the Center for Vocational Education (The Ohio State University) and is sponsored by funds from the National Institute of Education. O.E.P. is a classroom program designed to enhance the career awareness and career understandings of 7th and 8th grade students through the utilization of simulations, games, small group and individualized activities. The program is organized into an Introduction and eight (8) industrial cluster packages with each package consisting of a simulation and other exploratory activities as specified above. In FY'75' the program Introduction and three (3) cluster packages representing the Trade and Finance, Health and Welfare and Construction industries were pilot tested.

The report is organized as follows: Overview of the Evaluation Strategy; Evaluation of the Program Introduction; Evaluation of the three (3) cluster packages; and an analysis of trends from the evaluation data collected in 1975. One basic premise of the evaluation was to test the feasibility of implementing the program in regular classroom settings. To that end more than 20 classrooms in two different school districts were utilized to evaluate the cluster packages. Questionnaires were administered to both teachers and students using the O.E.P. materials. For students the questions dealt with the factors of interest, use and understanding. For teachers, the questions were focussed on factors such as classroom organization, management problems, and general appeal/quality of the materials. In addition to the questionnaires, both students and teachers were interviewed.

The data collected was compiled for the Introduction and for each cluster package as total units and additionally for each specific product within those units. For the cluster packages and for most of the specific products within them, results were highly positive. The students felt that the products were interesting and appealing; that they could, in general, easily read them; and that they were learning about various aspects of the occupations included in the materials. Results from teachers not only verified the student perceptions but also indicated that the program could be implemented in the classroom without much difficulty. For example, the teachers stated that they would re-use almost all of the materials in the Introduction and in each cluster package; and further that the materials were generally above average in instructional quality. The data is collated into many tables interspersed throughout the text of the report.

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I OVERVIEW OF THE EVALUATION STRATEGY

PILOT-TEST, 1975

Program Description/Background

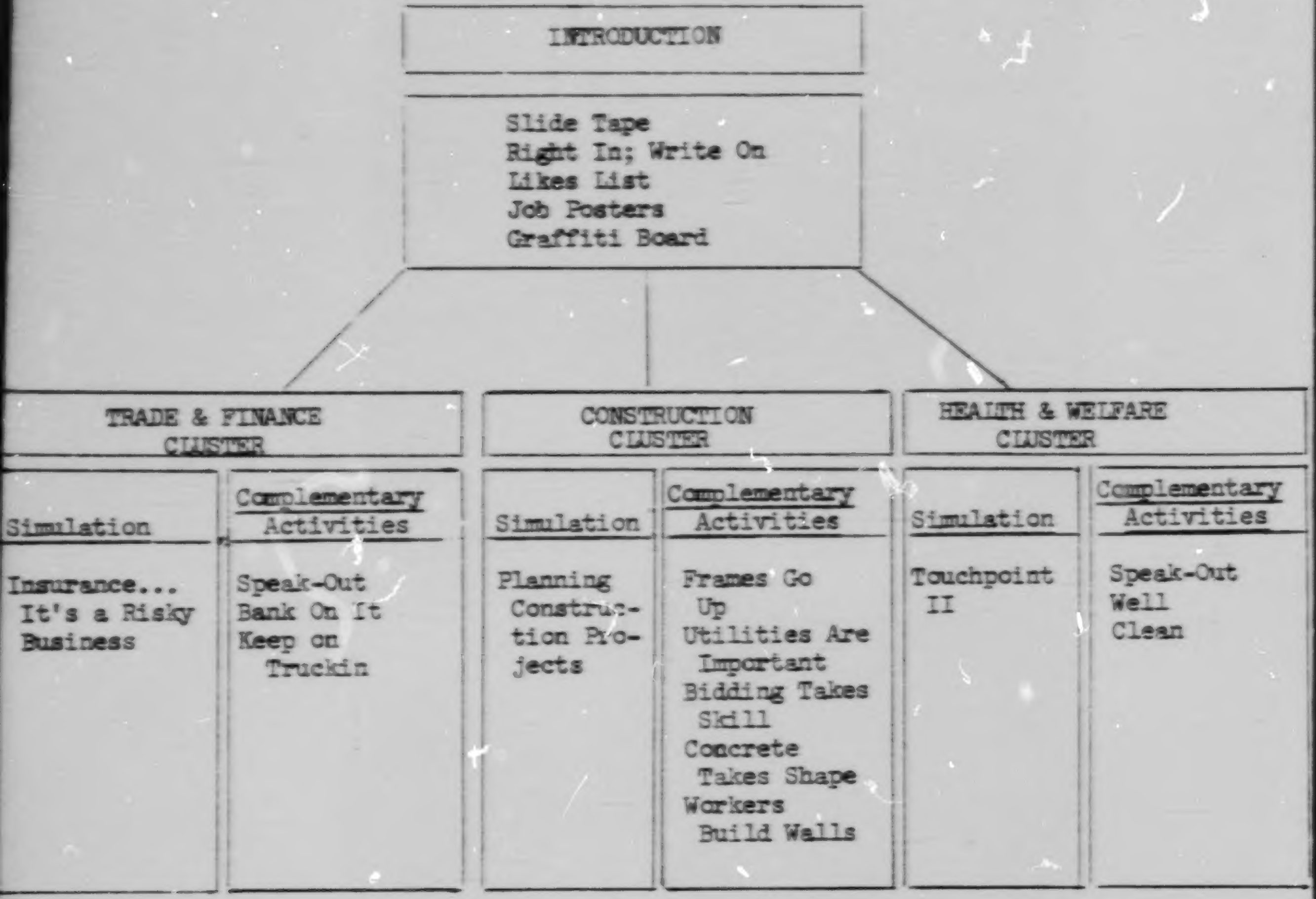
The Occupational Exploration Program is designed to provide seventh and eighth grade students with opportunities to actively explore many different kinds of occupations and work settings. When completely developed, the program will consist of (a) one multi-media program introduction, (b) twelve occupational cluster packages (each consisting of one simulation and approximately six complementary exploratory activities), and (c) a staff development program.

During 1973-74, extensive simulation development occurred, and seven of the twelve simulations were tested and evaluated. Since then a draft of the program introduction has been generated and, for three of the occupational clusters, the simulations have undergone extensive revision, and a series of complementary exploratory activities have been produced. These materials comprise the three semi-complete job-cluster packages for "Health and Welfare", "Trade and Finance", and "Construction", which were pilot-tested in May, 1975. Figure 1 diagrams the specific materials included in these packages. Another cluster package, "Arts and Humanities" is being tested in the Summer, 1975, and will be included in a later report.

Objectives of the Evaluation

During the 1973-74 Pilot-Test, the emphasis of the evaluation was on measuring the impact of the materials on students' cognitive performance

FIGURE 1. OEP Materials Pilot-Tested, Spring, 1975


INTRODUCTION
Slide Tape
Right In; Write On
Likes List
Job Posters
Graffiti Board
TRADE & FINANCE CLUSTER
Simulation
Insurance... It's a Risky Business
Complementary Activities
Speak-Out
Bank On It
Keep on Truckin
CONSTRUCTION CLUSTER
Simulation
Planning Construction Projects
Complementary Activities
Frames Go Up
Utilities Are Important
Bidding Takes Skill
Concrete Takes Shape
Workers Build Walls
HEALTH & WELFARE CLUSTER
Simulation
Touchpoint II
Complementary Activities
Speak-Out
Well
Clean

and affective changes, i.e., occupational preferences. In that study, it was found that 6 of the 7 simulations produced significantly higher knowledge scores (experimental over control groups), and that 5 of the 7 simulations were associated with significant or nearly significant changes in the strength of preferences for occupational activities. Given these results replication of the impact study was deemed unnecessary in 1975, and the thrust of evaluation was shifted to one of studying the feasibility of implementation of the Occupational Exploration Program and collecting revision data.

The underlying goals of the evaluation were:

1. To collect data relative to the implementation of a semi-complete cluster package in a classroom, including such concerns as feasibility, acceptance by teachers and students, costs in terms of teacher efforts, integration of cluster package parts, problems encountered, etc.
2. To develop a formative information base relevant and useful for revision and refinement of the cluster package concept.
3. To develop a formative information base relevant and useful for revision and refinement of new products being used for the first time.

Specific evaluation objectives are listed for major program components in Table 1.

TABLE 1. Evaluation Emphasis By Program Component

Component	Evaluation Emphasis*
I. Introduction	
A. As a Unit	1. To assess effectiveness in interesting and motivating students to participate in the program. 2. To determine the effectiveness of the Introduction in introducing the concepts of occupational exploration and grouping.
B. Specific Activities	1. To assess student interest, use, and understanding of specific materials. 2. To obtain information useful for revising the materials.
II. Cluster Packages	
A. As a Unit	1. To determine the feasibility of the simultaneous implementation of many diverse activities in the classroom. 2. To assess student interest in occupational exploration. 3. To assess student understanding of work factors. 4. To assess effectiveness in increasing student awareness of personal interests.
B. Simulation	1. To examine students' interest in and reactions to the materials and to their participation in the simulation. 2. To obtain information regarding implementation problems with the simulation. 3. To determine student perceptions of what they learned from the simulation. 4. To obtain information useful for revision.
C. Complementary Activities	1. To examine how receptive/interested/motivated students are in the activities. 2. To discover implementation problems inherent in the activities. 3. To assess student perceptions of what they learned from the activities. 4. To obtain information useful for revision.

* Teacher perceptions as well as student reactions were important components of each evaluation emphasis.

Sample Involved

Two strata of school populations were used in the test. One consisted of four Jefferson County, Colorado Public Schools with predominantly white, middle class populations. The other consisted of two Columbus, Ohio public schools with mixed black-white populations from somewhat lower SES groups than those of Jefferson County. Table 2 presents demographic and achievement information for the six schools included in the sample.

Table 2a. Demographic and Student Data* on OEP Pilot-Test Schools in Jefferson County, Colorado

School	Enrollment	Absentee Rate	% Minority**	Educational Level of Staff		% Students on ADC	% Above Mean on Stu. Achiev.		
				BA	MA		Rdg.	Math	Lang
Alameda Jr.	701	8%	4.8	20%	80%	5.2	69	64	65
Arvada Jr.	1407	4.5%	5.6	50%	50%	3.8	55	62	58
Manning Jr.	980	5.2%	2.5	40%	60%	0	61	88	74
Wheatridge Jr.	705	5%	7.3	50%	50%	2.8	72	61	65

* Data supplied by School Administrators.

** Minorities in these schools are predominantly students with Spanish Surnames.

Table 2b. Demographic and Student Data* on OEP Pilot-Test Schools in Columbus, Ohio

School	Enrollment	Absentee Rate	% Minority**	BA	MA	% St. on ADC	% at or above grade level				
							Read Vocab	Read Comp	Arith Comp	Arith Conc.	Arith App.
Indianola Jr.	654	15%	31	63%	37%	30	23	29	28	31	25
Crestview Jr.	609	9%	5	50%	50%	8	45	56	43	56	52

* Data from 1973 Columbus Public School Profile Report.
** Minorities in these schools are predominantly Black.

The original Pilot-Test sampling strategy for each cluster package included one seventh-grade and one eighth-grade classroom at four schools (two schools per stratum). However, with pilot-testing beginning in mid-spring, 1975, it was found that, although interest and willingness to participate was high on the part of teachers and administration, many classes were involved in ongoing activities or completion of required curriculum for the year. In addition it was found that industrial arts classrooms in Columbus, as well as those in surrounding communities, meet on the average only twice weekly. The Construction cluster package, which is intended for use in industrial arts classrooms, requires approximately 20 class periods to complete - a duration of up to ten weeks on a bi-weekly meeting schedule. Consequently, it was not feasible for the Construction package to undergo pilot-testing in the Columbus area at that time.

Given these constraints, sampling was accomplished using 18 intact classrooms in the six schools previously described. The break-down of classes and numbers of students is shown in Table 3.

Table 3. Numbers of Classes and Students Involved in Pilot-Test for Each Cluster by School and Grade Level*

	School	Health & Welfare		Trade & Finance		Construction	
		7th	8th	7th	8th	7th	8th
1	Alameda			2(63)		2(4 mixed 31)	
	Arvada					2(20 mixed 13)**	
	Manning	1(28)					
	Wheatridge	2(36 mixed 13)					
2	Indianola	1(20)	1(17)	1(24)	1(10)		
	Crestview	1(20)	1(17)	1(32)	1(30)		
	Total	5(104)	3(47)	4(119)	2(58)	4(24)	4(44)

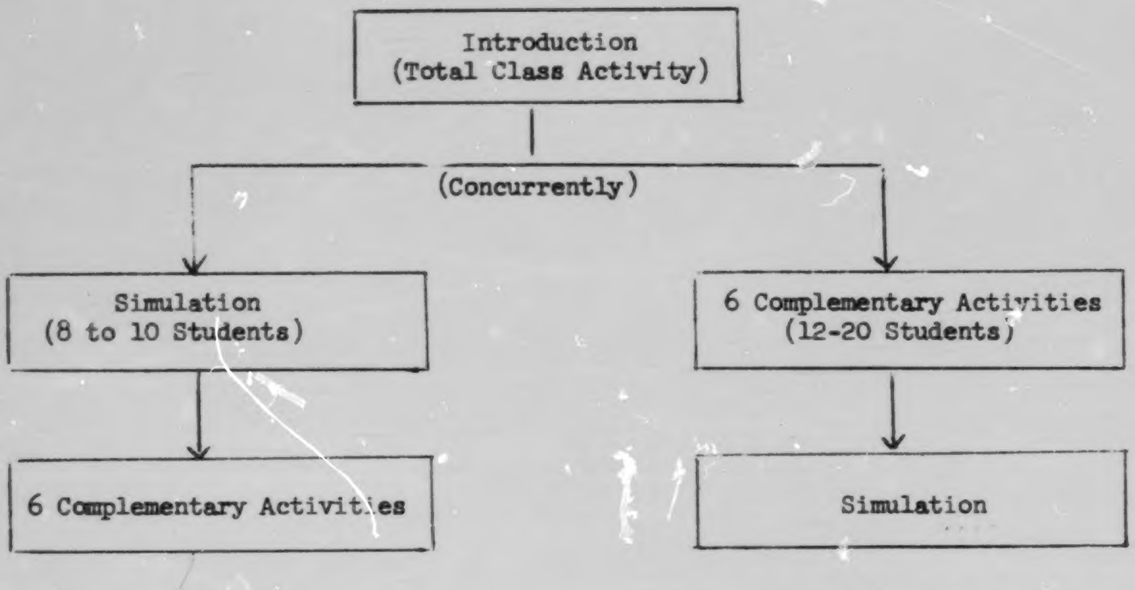
* Entries represent number of classes (number of students follow in parentheses). Numbers are based on number of respondents.

** Several 9th grade students are included in the eight grade sample in this class.

Pilot-Test Design

A complete cluster package consists of (a) the program introduction, (b) a small group simulation, and (c) six complementary activities (solo to small group). Structurally, a complete cluster package, as installed in a classroom, could be diagrammed as in Fig. 2.

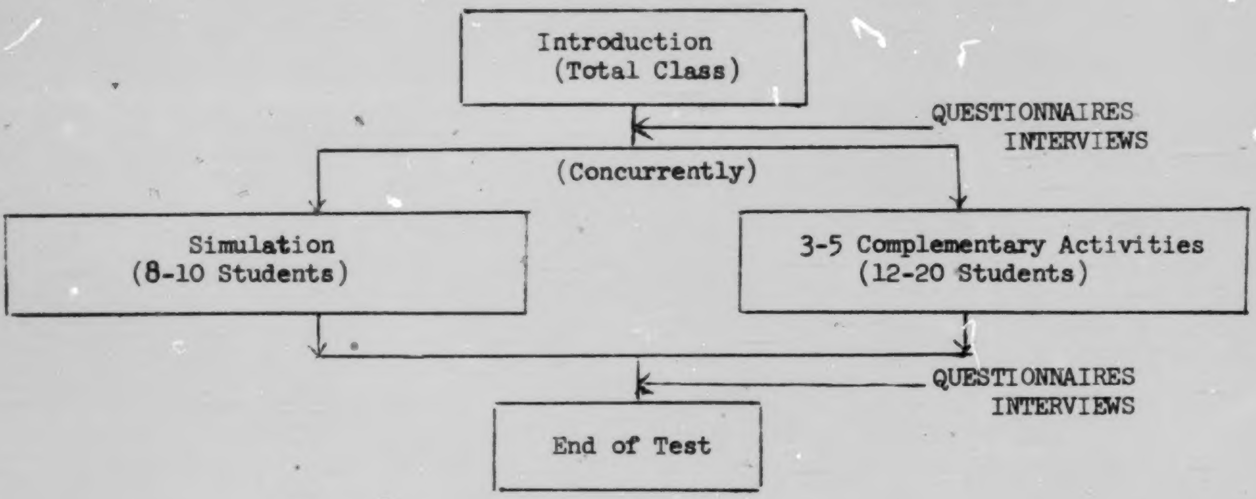
Figure 2. The Complete Cluster Package


Introduction
(Total Class Activity)
(Concurrently)
Simulation
(8 to 10 Students)
6 Complementary Activities
(12-20 Students)
6 Complementary Activities
Simulation

The program introduction consists of activities designed to motivate and orient students to the program and to the concept of exploring occupations. After the introduction, the class divides into unequal groups - one to simulate, the other to engage in complementary activities. Subsequently, those students who have not had an opportunity to simulate could do so, while those who have will continue their exploration with the complementary activities - until all students have participated in the complete cluster package.

For the purposes of pilot-testing and due to time limitations, however, it was not necessary for each student to participate in both the simulation and complementary activities. Each class completed the Introduction and then divided into unequal groups. One group simulated while the others participated in the 3 to 5 complementary activities which were available for that particular cluster package. Data was collected in two phases: (1) after completion of the Introduction, and (2) after completion of the simulation and complementary activities. Figure 3 describes the Pilot-Test design for each class.

Figure 3. Pilot-Test of a Semi-Complete Cluster Package


Introduction
(Total Class)
QUESTIONNAIRES
INTERVIEWS
(Concurrently)
Simulation
(8-10 Students)
3-5 Complementary Activities
(12-20 Students)
QUESTIONNAIRES
INTERVIEWS
End of Test

It was felt that the design specified in Figure 3 would provide a good approximation to the installation of a complete cluster package, as well as meet the evaluation goals of providing (1) data relative to implementation in the classroom, (2) information useful for refinement of the cluster package concept, and (3) formative data for revision of the products.

INSTRUMENTATION

Pilot-test instrumentation was developed for each of the two phases of evaluation described earlier. The first set of instruments was administered after the students had completed using the program Introduction. In this phase, the instrumentation included a student questionnaire, "Your Opinions, Please!"; a student interview form; and a teacher questionnaire, "Teacher Initial Perceptions" (TIP). The second set of instruments was administered after the completion of the cluster package activities. In this phase the instruments included a student questionnaire, "Your Opinions Again, Please!"; a student interview form; a teacher questionnaire, "Teacher Overall Perceptions (TOP); and a teacher interview form. The instrumentation developed for this pilot-test will be discussed in detail by evaluation phase. All instruments are appended to this text.

FIRST PHASE OF PILOT-TEST EVALUATION: Instrumentation Administered after Completion of Program Introduction

"Your Opinions, Please!" (Appendix III-A)

"Your Opinions, Please!" is a student questionnaire designed to measure students' perceptions of the Introduction to the program. The 23 randomly ordered statements consist of 15 positive and 8 negative stems. After reading each statement, students either check Yes (if they agree with the statement), No (if they disagree with the statement), or ? (if they are not sure or don't know how they feel). The test was designed to assess three dimensions of perceptions relating to the program Introduction. These three areas are student interest, use, and understanding of the Introduction. The following statements are examples of items for each dimension assessed.

Dimension: Student interest

Items:

a) I think most students my age would enjoy the comic strips.

b) I feel I want to start exploring occupations right away.

Dimension: Student ability to use the materials

Items:

a) I understood the directions in the Introduction.

b) The comic strips were hard to read.

Dimension: Student understanding

Items:

a) It's important to understand about jobs before you choose one.

b) I learned a lot of new ideas in the Introduction.

Table 4 presents the item breakdown by direction (whether positively or negatively stated) and by dimension assessed.

Table 4: Item Breakdown of "Your Opinions, Please!"

	Direction of Item		
Dimension	POSITIVE	NEGATIVE	TOTAL
Interest	2	3	5
Use	6	2	8
Understanding	7	3	10
Total	15	8	23

Two sets of check questions were included to measure the reliability of student responses. The two sets of check questions were items #5 and #15, and #6 and #14 on the questionnaire. An example of one set included is:

The Introduction was boring for me.

I didn't like many of the things I did in the Introduction.

Introduction To Exploring Occupations: Student Interview Form (Appendix III-B)

After completing the questionnaire, "Your Opinions, Please!", three students were randomly chosen from each class by the program interviewer. The purpose of the interview was to probe into individual student's perceptions of the program introduction. The interview consisted of open-ended questions dealing with preferences toward the materials, awareness of occupations, implementation/usage problems, understanding of concepts, and recommendations for materials revision. Some of the occupational awareness questions included: Is it useful to think about occupations at your age? Since you participated in the Introduction, do you feel you're getting more ideas about what you might do when you're older? What are the most important things you feel you should consider before choosing an occupation?

Other questions included were designed to provide revisors with specific information concerning such things as activities students liked most or least, reading level, clarity of written directions and concepts developed, and recommendations by specific activities. Specific revision data was collected for the comic strips ("Right In/Write On" booklet), the likes list ("Working It Out and Liking It Too" booklet), Occupations Album, and Slide Tape Presentation.

"Teacher Initial Perceptions (TIP)" (Appendix III-C)

This questionnaire was designed to measure teacher perceptions immediately following the implementation of the program introduction. The first section of the instrument, "How Well Did The Introduction Work?", collects information concerning teacher perceptions of: (1) the time requirements for preparation and instruction, (2) the organization/structure of the Introduction materials, and (3) implementation problems. The second section, "Perceptions of Student Outcomes," asks the teacher to estimate the percentage of students whom he/she feels enjoyed or liked the specific activities; understood the concepts, directions, vocabulary and reading materials; and showed interest in the program. In Section III, the teacher's overall reactions to the Introduction are assessed (i.e., teacher acceptance data, teacher recommendations for revision).

SECOND PHASE OF PILOT-TEST EVALUATION: Instrumentation Administered after Completion of Cluster Package.

"Your Opinions Again, Please!" (Appendix III-D)

"Your Opinions Again, Please!" is a student questionnaire designed to measure students' perceptions of the activities contained within each cluster package (i.e., simulation and other exploratory activities). The instrument is divided into three sections: the first section is completed by all students using the cluster package activities; the second section is completed by students using the simulation, and the third section is completed by students using the complementary activities. Parallel forms of these instruments were developed with identical items included in the first section, and similar items in the second and third sections. The parallel forms relate specifically to each one of the cluster packages.

In the first section, the 30 items (22 positively and 8 negatively stated statements) measure three dimenions of the students' perceptions of the activities. These three areas are student interest, use and understanding of the activities. The following statements are examples of items for each dimension assessed:

Dimension: Student interest

a) I would like to try more activities like these.

b) I want to continue to add to my own occupations album.

Dimension: Student ability to use the materials

a) There were too many other students involved in the activities at the same time.

b) Some of the activities were too hard for me to do.

Dimension: Student understanding

a) Since I've tried the Occupational Exploration Activities, I feel I know more about how well people in different occupations like their work.

b) I found I had interests and likes that I didn't know about before.

In Tables 5a, 5b, and 5c the data presents the total item breakdown for each form of the instruments by direction (whether positively or negatively stated) and by dimension assessed.

Items breakdown of "Your Opinions Again, Please!"

Table 5a: Health and Welfare Cluster

	Direction of Item		
Dimensi	POSITIVE	NEGATIVE	TOTAL
Interest	15	6	21
Use	11	8	19
Understanding	20	4	24
Total	46	18	64

Table 5b: Trade and Finance Cluster

Dimension	POSITIVE	NEGATIVE	TOTAL
Interest	13	6	19
Use	13	8	21
Understanding	19	4	23
Total	45	18	63

Table 5c: Construction Cluster

Dimension	POSITIVE	NEGATIVE	TOTAL
Interest	11	4	15
Use	11	9	20
Understanding	18	3	21
Total	40	16	56

One set of check questions were included to measure the reliability of students' reponses. The check questions were items #1 and #14:

#1. I enjoyed doing the exploratory activities.

#14. I didn't like many of the things I did in these activities.

Post Cluster Package: Student Interview Form (Appendix III-E)

In addition to completing the questionnaire, "Your Opinions, Again Please!", three students were randomly chosen from each class by the program interviewer. Two students participated in the other exploratory activities and one student participated in the simulation. The purpose of the interview was to probe into individual students' perceptions of the program activities. The interview consisted of open-ended questions dealing with student preferences toward the materials, awareness of occupations, implementation/usage problems, conceptual understanding and recommendations for materials revision. The questions dealing with occupational awareness were included to help assess the impact of the activities and to provide a quasi-post cluster package measurement. The questions were identical to those asked in the first student interview. Other questions included in the interview form were designed to provide revisors with specific information concerning:

- what students liked most and least about each activity
- clarity of written directions
- realism of jobs presented in simulation
- problems using the activities
- recommendations to change specific activities/simulation

"Teacher Overall Perceptions (TOP)" (Appendix III-F)

This questionnaire was designed to measure teacher perceptions of the activities immediately following the implementation of the cluster package. The first section of the instrument, "Section I: How Well Did the Entire Cluster Package Work?", collects information concerning teacher perceptions of:

1. time requirements for preparation and implementation
2. implementation procedures/problems
3. classroom arrangement/noise level
4. management of activities/simulation

The second section, "Section II: In-Service Training" measures the teacher perceptions of the In-Service program given prior to the materials usage.

"Section III: Perceptions of the Simulation" has two parts. Part A includes general questions relevant to the simulation. Examples of some questions are: "Did the situation in the simulation maintain student interest?", and "Did the summary provide an incentive to explore occupations further?" In Part B, teachers are asked to check the percentage of students (0-25%, 26-50%, 51-75%, or 76-100%) who they felt enjoyed/liked:

1. participating in the simulation
2. having a realistic occupational problem to solve
3. playing different occupational roles
4. learning about different occupations
5. working with other students
6. exploring occupations

and understood:

1. the directions
2. the written materials
3. the vocabulary
4. the intent of the activities
5. the intent of the entire cluster package
6. the importance of exploring occupations

"Section IV: Perceptions of the Other Exploratory Activities" is also divided into Parts A and B. In Part A, the teacher responses to general questions about the other exploratory activities in the package. Examples of some questions are: "Was it easy for students to shift from one activity to another?", and "Did the illustrations increase student understanding of the activities?" In Part B, the teachers checked the percentage of students (o-25%, 26-50%, 51-75%, 76-100%) who they felt enjoyed/liked participating in specific activities, and understood the various aspects of the program and materials.

The final section, "Section V: Overall Considerations", assesses the teachers' general reactions to the materials and the program. It collects information concerning the teachers' most favored and least favored activities, teacher acceptance, and overall perceptions of the instructional quality of the cluster package. Space is provided for the teachers to make additional comments or recommendations for program improvement.

Teacher Interview

At the conclusion of the pilot-test, each teacher was interviewed individually. The purpose of the interview was to collect information that could be used to improve:

1. the in-service program
2. the teacher's guide
3. the implementation of the materials
    a. placement of students into activities
    b. concurrent use of simulation and other exploratory activities
4. the simulation itself
5. the other exploratory activities

In addition, information was collected to help determine the population of students that OEP materials are best suited for, define alternative strategies for implementing the cluster package within the regular classroom activities, and assess unexpected student outcomes.

II. EVALUATION OF THE INTRODUCTION TO OCCUPATIONAL EXPLORATION

Description.

The "Introduction to Occupational Exploration" is a four-part instructional activity intended for use in seventh and eighth grade classrooms. It is designed to involve the student in the initial phases of the Occupational Exploration Program and to prepare the student for further exploration in the simulation and complementary activities contained in the cluster packages.

Part 1 is entitled "Right In/Write On!" and is a set of three story models with corresponding fill-in comics, which allow students to explore and express their own interests and feelings about occupations and the world of work. Both the story models and the fill-ins are presented in comic strip formats and hopefully provide novelty and appeal to the student as he/she completes such captions as: "When I was little, I ...." and "Now I know I gotta shop around - think about what I really like doing, things like ....".

Part 2 consists of two synchronized slide/tape presentations entitled "Up to Now" and "What Next." The first presentation begins with a song dealing with exploring occupations and continues with students commenting on their early childhood job aspirations and experiences. Examples are given of how students may have been exposed to occupations thus far in their lives, and of the variety of occupations available in the world of work. As one student on the tape comments, "I'm gonna shop around." The first presentation ends with the theme music and the lyrics, "...exploring occupations - make it work for you." The second slide/tape presentation, "What Next", begins by dealing with some of the notions involved in the concept of occupation. Further, it introduces the idea of grouping occupations into clusters, and lists twelve OEP occupational clusters with students' comments about what types of things occupations in each cluster might involve. Among the comments are such questions as, "How you gonna know?" and "How you gonna get it together?" In turn then, other students on the tape respond by mentioning things to look for and possible outcomes of exploring occupations.

Part 3, "Working It Out and Liking It Too", is a booklet containing "Likes Lists." Students initial things which they like or in which they are interested. They then relate their likes to different occupations which they either know about and like, or which they would like to know more about. They do this by working through a minimum of 3 sections called "work groups" and by referring to twelve work group (cluster) posters placed on the bulletin board. Work in this booklet can continue throughout the program.

Part 4, the "Occupations Album", is a booklet in which students record "mental pictures" of different occupations that they encounter in their exploration of the world of work.

Also included in the materials is an occupational graffiti poster on which students may write witty comments or puns dealing with occupations. The poster is intended to provide students with the opportunity to express themselves in a humorous vein while pursuing more serious exploration.

RESULTS - STUDENT QUESTIONNAIRES

Interest in the Materials

As indicated in the first chapter of this report, the questionnaires contained 10 items dealing with student interest in the Introduction. There were seven positive statements and 3 negative ones randomly distributed throughout the questionnaire. Data was collected from more than 347 students in the two strata (Columbus and Jeffco) represented in the sample. The sample was nearly equally divided between males and females.

The first major finding from the questionnaire data is that the Introduction was successful and generally stimulated or sparked student interest. As shown in Table 2.1, student responses to 9 of the 10 interest items were positive - 60% or greater positive response to 5 items and 50% or greater positive response to 4 items.

The five items obtaining the most positive response rate (60%) dealt with interest in the comic strips, the slide presentation, the overall Introduction, the Occupations Album, and the "Likes" list and posters. The next most positively received items focussed on general interest in the introductory activities, motivational aspects of the slide presentations, music of the slide presentations, and motivation to start exploring occupations right away.

The last item in this set (#19), the one dealing with student perceptions of how others would enjoy the Introduction, received a rather low positive response (44%). This fact in conjunction with the high number of responses in the "uncertain" category (36%) would tend to indicate that students either have not made up their minds about the issue or are rather reluctant to

Table 2.1: Student Responses to the Introduction Interest Items
Percentage Breakdown by Grade, Strata, and Total Population

STRATA		COLUMBUS (N 164)			JEFFCO (N 185)			TOTAL (N 350)		
ITEM	RESPONSE	7th	8th	Total	7th	8th	Total	7th	8th	Total
1. I think most students my age would enjoy the comic strips.	Yes	70	67	69	63	55	60	66	62	64
	No	8	11	9	16	17	16	13	14	13
	?	23	22	22	21	28	23	22	25	23
5. I didn't like many of the things I did in the Introduction.	Yes	29	14	22	25	32	27	27	22	25
	No	51	59	54	60	47	56	56	53	55
	?	20	27	23	15	22	17	17	25	20
7. I liked watching the slide show.	Yes	86	62	76	65	66	65	74	64	70
	No	10	23	15	15	19	16	13	21	16
	?	4	15	9	20	15	19	13	15	14
8. After I saw the slide shows, I wanted to explore occupations.	Yes	63	39	53	52	45	50	57	42	51
	No	17	40	27	21	30	24	19	35	25
	?	19	21	20	27	25	26	24	23	23
9. The music of the slide shows was good.	Yes	68	40	56	59	48	55	63	44	56
	No	16	31	23	25	22	24	21	27	23
	?	15	28	21	16	30	21	16	29	21
15. The Introduction was boring for me.	Yes	22	27	24	16	29	20	19	28	22
	No	67	53	61	68	55	64	68	54	63
	?	11	19	15	16	16	16	14	18	15
16. I want to continue to add things to my own occupations album.	Yes	70	62	66	64	45	61	69	54	63
	No	10	16	13	14	27	18	14	21	15
	?	20	22	21	18	28	21	19	25	21

Table 2.1: Student Responses to the Introduction Interest Items (continued)
Percentage Breakdown by Grade, Strata, and Total Population

STRATA		COLUMBUS (N 164)			JEFFCO (N 185)			TOTAL (N 350)		
ITEM	RESPONSE	7th	8th	Total	7th	8th	Total	7th	8th	Total
19. I don't think other students my age would like the Introduction.	Yes	22	18	20	16	24	19	19	21	19
	No	38	39	38	50	49	50	45	44	44
	?	40	43	41	34	27	32	37	36	36
20. The "Likes" List and the posters were fun to use.	Yes	82	65	75	75	67	72	78	66	73
	No	6	19	12	8	12	9	7	16	10
	?	12	15	14	17	22	19	15	18	16
23. I feel like I want to start exploring occupations right away.	Yes	53	39	47	57	42	52	55	40	50
	No	20	33	26	19	32	23	20	33	24
	?	27	28	28	23	27	24	25	27	26

make a decision about other students enjoying the materials. The latter interpretation is probably most likely for students in this age range.

The second major finding regarding student interest is that seventh graders are considerably more positive about the materials than 8th graders. And moreover, these differences are apparent in both of the two strata although the results across the strata themselves do not differ. In other words, 7th graders and 8th graders in Columbus and Jeffco are alike in terms of interest with the seventh graders consistently responding more positively to the questionnaire items. A variety of reasons may account for this occurrence: students in the eighth grade are older and hence may have reacted less favorably to the slides containing pictures of young children; students in the eighth grade, by virtue of their age, may be more critical of educational materials than younger students; eighth graders may be less enthusiastic about school than seventh graders; the pilot-testing occurred at the end of the school year; etc. Whatever the possible explanation, curriculum developers and users should be aware of the difference in interest that is apparent in the pilot-test data and act accordingly.

Use of the Materials (See Table 2.2)

There were five items in the questionnaire dealing with use of the materials. Two of the items were positively stated and three were negatively stated. The overall number of respondents to these questions was the same as for the student interest portion of the questionnaire.

The response to all five questions was highly positive with only one question receiving a positive rate of response slightly below 70%. Students clearly could read the materials, understand them and use them. In general

Table 2.2: Student Responses to the Introduction Use Items
Percentage Breakdown by Grade, Strata, and Total Population

STRATA		COLUMBUS (N 164)			JEFFCO (N 185)			TOTAL (N 350)		
ITEM	RESPONSE	7th	8th	Total	7th	8th	Total	7th	8th	Total
4. I wasn't able to read many of the materials in the Introduction.	Yes	25	27	26	22	18	21	23	23	23
	No	59	63	61	67	77	70	64	69	66
	?	16	10	13	10	5	8	13	8	11
11. The comic strips were hard to read.	Yes	8	13	10	7	8	7	7	11	9
	No	90	82	86	88	85	87	89	83	87
	?	2	6	4	5	7	5	4	6	5
13. I understood the directions in the Introduction.	Yes	74	65	70	83	78	81	79	71	76
	No	11	17	13	5	8	8	9	13	11
	?	15	18	17	12	14	11	13	16	13
14. The "Likes" List and the posters were easy to use.	Yes	72	75	73	84	71	80	79	73	77
	No	8	8	8	2	8	4	5	8	6
	?	20	17	19	13	20	16	16	18	17
21. There were too many comic strips to fill in.	Yes	16	23	19	27	26	27	23	24	23
	No	79	73	76	68	59	65	72	67	70
	?	6	4	5	5	16	8	5	9	7

only a few grade level and strata differences were noted (in this overall positive response), with the latter more pronounced. Students in the higher SES stratum (Jeffco) could more easily understand and use the materials. Students in the lower stratum (Columbus), however, were much more positive (76% to 65%) in regard to the number of comic strips to fill in.

Although it is difficult to judge based on only one question, it is possible that the number of comic strips appeared to be somewhat redundant to the students in Jeffco. This is seen in the somewhat lower positive response by these students to the "interest" question regarding the comic strips and by their perceptions of having learned more from the Introduction. (See the section entitled "Understanding the Materials"). Developers and users should give consideration to slightly reducing the number of strips or comic frames to be completed by students.

Understanding of the Materials (See Table 2.3)

Eight understanding items (6 positive and 2 negative stems) were included in the student questionnaire. The number of respondents to the items was approximately the same as for the other two parts of the questionnaire.

The results from this set of items were very positive and indicated that students felt they understood the materials. Student responses were extremely positive for seven of the eight items in the set. The remaining item received a considerably less positive response - only forty-eight percent of the students responded that they understood what the "Likes" list and posters were about. This tends to suggest that while student understanding was generally high for most segments of the Introduction, the purpose of the "Likes" list and associated posters needs to be clarified.

[redacted] [redacted] [redacted] [redacted] [redacted]le [redacted] S[redacted]nt [redacted]ons[redacted]to [redacted]Int[redacted]cti[redacted]Und[redacted]and[redacted]Ite[redacted] [redacted] [redacted] [redacted] [redacted]

Percentage Breakdown by Grade, Strata and Total Population

STRATA		COLUMBUS (N 164)			JEFFCO (N 185)			TOTAL (N 350)		
ITEM	RESPONSE	7th	8th	Total	7th	8th	Total	7th	8th	Total
2. When I used the "Likes" List and the posters, I learned about a lot of jobs I might be able to do.	Yes	74	66	70	86	67	80	81	66	75
	No	8	18	12	6	14	8	6	16	10
	?	18	16	18	9	19	12	13	18	15
3. When I filled in the comic strips, I thought about what I might be when I'm an adult.	Yes	66	59	63	80	75	78	74	66	71
	No	28	30	29	11	20	14	18	26	21
	?	6	11	8	9	5	8	8	8	8
6. I'm not sure I understoon the "Likes" List and posters.	Yes	30	34	32	24	44	30	27	38	31
	No	45	29	42	57	46	53	52	42	48
	?	25	27	26	19	10	16	21	19	21
10. I need to think more about what I want to be.	Yes	71	69	70	74	68	72	73	69	71
	No	20	17	18	22	25	23	21	21	21
	?	10	14	12	5	7	5	7	11	8
12. I learned about a lot of new ideas in the Introduction.	Yes	78	62	71	77	69	74	77	65	73
	No	10	21	14	15	19	16	13	20	15
	?	12	18	14	9	12	10	10	15	12
17. I think I understand what it means to put occupations into groups.	Yes	65	74	69	74	82	77	71	77	73
	No	13	7	10	12	12	12	12	9	11
	?	22	19	21	14	7	11	17	14	16
18. It's important to understand about jobs before you choose one.	Yes	97	99	98	98	92	96	98	95	97
	No	1	0	1	0	5	2	0	2	1
	?	2	1	2	2	3	2	2	2	2
22. I'm not sure I understood what the slide shows were about.	Yes	29	29	29	17	25	20	22	27	24
	No	60	55	58	74	62	70	68	58	65
	?	11	15	13	9	13	10	10	14	12

There are several other trends in the data which merit further comment. First, there was a tendency for Jeffco students to report higher understanding than Columbus students. This may be a result of differing ability or achievement in the two groups. Secondly, there was a grade level difference with 7th graders reporting greater understanding than 8th graders. On quick glance, this may appear surprising but, as described earlier, 8th graders were less interested in the materials. Their lower interest probably resulted in the feeling that they did not learn much from the materials.

RESULTS - STUDENT INTERVIEWS

Three students in each classroom were interviewed regarding their perceptions of the introductory materials and general feelings/ideas about exploring occupations. Forty five students (56% female, 44% male) in 15 different classrooms constituted the interviewed sample. Since the number of respondents was small, no attempt will be made to compare strata in the dicussion that follows.

Perceptions of the Materials

Table 2.4 contains a summary of student responses to questions dealing with their perceptions of materials in the Introduction. As can be seen from tabulations of the six questions, the range of positive response was from 58% to 80%. The interview responses thus tend to corroborate the questionnaire results. At the same time, however, 38% (17/45) of the students stated that they had problems using the Introduction. Further analysis of the open-ended replies to the question indicated that a variety of minor problems occurred during the use of the Introductory materials. The most frequently cited problems were: directions and understanding of "Working It Out and Liking It Too";

TABLE 2.4: Interview Questions Dealing with Perceptions of the Materials by Grade Level and Total Group.

Grade Level/Group Question		7th	8th	Total	N
Did you have any special problems using the Introduction?	Yes	8	9	17	45
	No	17	9	26	
	?	1	1	2	
Were there any ideas presented in the Introduction that were not clear or that you did not understand?	Yes	7	6	13	45
	No	18	13	31	
	?	1	--	1	
Would you change the Comic Strips?	Yes	6	5	11	45
	No	20	14	34	
	?	--	--	--	
Would you change "Working It Out and Liking It Too"?	Yes	8	5	13	45
	No	18	14	32	
	?	--	--	--	
Would you change the "Occupations Album"	Yes	1	4	5	45
	No	21	15	36	
	?	4	--	4	
Would you change the slide/tape presentation?	Yes	9	2	11	45
	No	17	15	32	
	?	--	2	2	

general unclarity of directions; and lack of full understanding of the comic strip completion exercise. This would be suggestive of the need for some minor revisions in the materials and/or the teacher guides.

With regard to activities preferences for specific activities in the materials, students reported that the comics, the slide/tapes and graffiti posters, in order, were the most liked materials. Writing activities and "Working It Out and Liking It Too" were the most disliked activities, although it should be noted that 17 students reported that they disliked nothing.

General Feelings About Exploring Occupations

The pattern of responses to the 4 questions dealing with feelings about exploring occupations (Table 2.5) is supportive of the positive impact of the Introduction on students. Forty-seven percent (21/45) of the students said that they had not thought much about exploring occupations prior to using the Introduction. Yet 93% (42/45) report that since they've participated in the Introduction they're getting more ideas about what they might do when they're older. In addition, the vast majority of students felt that it was useful to think of occupations at this age and that they already had ideas of occupations that might be interesting to them.

Analysis of open-ended responses shows that some students have already begun to explore occupations by visiting places where people work, reading about occupations or thinking about occupations. The things students found most important "when considering an occupation" were: interest in or liking of the job; salary; ability to do the work; people you work with; and things you have to do. (Note: these results were similar to those collected in evaluating OEP products a year ago.)

TABLE 2.5: Interview Questions Dealing With Feelings About Exploring Occupations By Grade Level and Total Group

Questions	Grade Level/Group	7th	8th	Total	N
Do you have any ideas of what occupations you might be interested in?	Yes No ?	23 2 1	18 1 --	41 3 1	45
Had you thought much about exploring occupations before using this Introduction?	Yes No ?	11 15 --	13 6 --	24 21 --	45
Is it useful to think about occupations at your age?	Yes No ?	23 3 --	14 1 4	37 4 4	45
Since you've participated in the Introduction, do you feel you're getting more ideas about what you might do when you're older?	Yes No ?	23 3 --	19 -- --	42 3 --	45

RESULTS - TEACHER QUESTIONNAIRES (TIP)

Fourteen teachers (100% response rate) returned the Teacher Initial Perception (TIP) questionnaires. The questionnaire contained three basic sections:

(1) How well did the Introduction work;

(2) Perceptions of student outcomes; and

(3) Overall reactions.

The discussion that follows will cover the three dimensions of the questionnaire. Since the size of the sample was small, no comparison of strata will be made. The data is reported in Table 2.6. Table 2.6 is an actual teacher questionnaire with frequency of response recorded by each possible answer.

How Well Did the Introduction Work?

In general, the time required for preparing to teach the Introduction and the actual instructional period itself both seemed to be reasonable. The Introduction was developed as a 2-3 classroom period activity. Thirteen of the fourteen teachers responded that the activity required three or more periods and 11 teachers felt that this amount of time was appropriate. Teacher preparation to use the materials generally required about 1-2 hours of advance work, with 29% of the teachers reporting that it necessitated more than two hours of preparation. This would seem to be a normal occurrence for teachers when starting a completely new set of materials.

Regarding the organization and structure of materials, teacher responses were generally positive. Eight of the nine questions in this set received a positive response of 64% or greater. On the negative side, seven teachers (50%) felt that the Introduction was only somewhat effective in helping to launch other activities in the cluster package and five teachers felt that it was

Table 2.6: Teacher Initial Perceptions of the Introduction (Percent Responding, N=14)*

SECTION I: How Well Did The Introduction Work?

Time Requirements		Percent Responding	
1. Excluding in-service training, your preparation to use the introduction required	7 Less than 1 hr.	64 1-2 hrs.	29 More than 2 hrs.
2. In your class the introduction lasted approximately	7 1 Period	0 2 Periods	93 3 Periods or More
3. The instructional time for the introduction was	14 Too Short	79 About Right	7 Too Long
Materials Organization/Structure			
4. The development of the concept of exploration in the introduction was	7 Poor	29 Average	64 Good
5. The development of the concept, grouping of occupations, was	7 Poor	29 Average	64 Good
6. For maintaining student interest, the pacing of activities was	14 Too Slow	79 About Right	7 Too Fast
7. In relation to the objectives of the introduction, the printed materials were	0 Not Well Related	36 Somewhat Related	64 Well Related
8. In relation to the objectives of the introduction, the audiovisual materials (slides, tapes) were	0 Not Well Related	29 Somewhat Related	71 Well Related
9. In helping to launch other activities, the final activity of the introduction was	7 Ineffective	50 Somewhat Effective	43 Effective

*Of the 14 teachers responding, 8 were from Columbus and 6 were from Jeffco.

Implementation Problems

10.	Organizing and managing the introductory activities were	0 Difficult	21 Somewhat Difficult	79 Easy
11.	Using the printed materials (including posters) of the introduction was	0 Difficult	14 Somewhat Difficult	86 Easy
12.	Using the audiovisual materials was	7 Difficult	29 Somewhat Difficult	64 Easy

13. Did you have any major problems using or preparing to use specific printed materials?

☒ 36 Yes. (Please specify.)

☒ 64 No.

14. Did you have any major problems using or preparing to use specific audiovisual materials?

☒ 50 Yes. (Please specify.)

☒ 50 No.

15. Did your students have any major problems in participating in specific activities of the introduction?

☒ 43 Yes. (Please specify.)

☒ 57 No.

16. Were there any places in the introduction where you found it necessary to intervene to maintain student interest, motivation, and/or the flow of the activities?

☒ 71 Yes. (Please specify.)

☒ 29 No.

21. What activities in the introduction did the students enjoy most and what activities did they enjoy least?

Enjoyed Most	Enjoyed Least

22. How would you rate the introduction in relation to your students readiness or maturity?

14 Too Difficult　　79 About Right　　7 Too Easy

23. Would you use this introductory set of activities again in your class?

0 No. (Proceed to Question 25.)　　7 Yes, with major changes.　　86 Yes, with minor changes.　　7 Yes, with no changes.

24. If you would use these activities again, which change(s) would you recommend for the slide tape? (Check as many as apply)

50% Achieve similar effects through 16 mm. action movie
29 Combine the two parts of slide presentation into one
7 Have more narration
50 Have more comments from students
7 Have fewer comments from students
21 Leave as is except for minor modifications
29 Other. (Please specify.)

25. Would you recommend these activities for use by other teachers?

0 No　　36 Yes, with some reservations　　64 Yes

26. Overall, how would you rate the instructional quality of the introduction?

0 Very Poor　　7 Poor　　14 Average　　71 Good　　7 Very Good

In the space below, please describe any additional observations you have about the introduction. Included could be: interesting side effects that you have noted; problems that may have occurred; and your recommendations for improving/changing the introduction.

SECTION II: PERCEPTIONS OF STUDENT OUTCOMES

Check the Percentage of Students Whom You Feel . . .	Percentage of Students			
	0–25%	26–50%	51–75%	76–100%
17. ENJOYED/LIKED:				
	Percentage Responding			
Reading and filling in the "RIGHT IN/WRITE ON"	7	7	14	71
Using the slide/tape show	0	14	29	57
Listening to the music & songs	0	7	43	50
Initialing the "LIKES LIST" and writing comments about occupations	7	0	64	29
Consulting the cluster posters	14	29	36	29
Starting their personal "OCCUPATIONS ALBUM"	7	21	50	14
Writing "OCCUPATIONAL GRAFFITI"	0	7	14	71
18. UNDERSTOOD:				
The concept of exploring occupations	0	0	50	50
The concept of grouping occupations	0	14	43	36
The directions in the materials	0	29	43	29
The written material	0	21	43	36
The vocabulary used	0	14	29	57
19. SHOWED:				
Interest in the activities	0	0	29	64
Interest in exploring occupations after introduction was completed	0	7	43	36
Indifference to the introduction	64	14	0	14

SECTION III: OVERALL REACTIONS

20. What activities in the introduction were most and least appealing?

Most Appealing	Least Appealing

"difficult" to "somewhat difficult" to use the audio-visual materials. Teacher open-ended responses indicated that there were many problems in using the printed materials, the audio-visual materials, etc. contained in the Introduction. With regard to printed materials, teachers reported that students usually had problems with directions and in understanding what they were supposed to do in the "Working It Out and Liking It Too" and cartoon completion activities. For the audio-visual materials, numerous problems were reported in operating the equipment especially the synchronization of the slide/tapes.

Several teachers commented that they had to repeat instructions to students, that student interest and motivation was not constant, that "Working It Out and Liking It Too" may have been too difficult for students, and more directions or information for it may be needed. Teachers reported that during the Introduction they frequently had to tie together ideas or stress the interrelationships between different parts of the Introduction.

In general, teacher reception to the Introduction was quite positive; however, earlier comments suggest that several minor problems exist. Based upon these comments, developers should carefully analyze the materials in the Introduction with regard to the clarity and adequacy of directions and information that has been supplied with the materials (especially for "Working It Out and Liking It Too"). Consideration should also be given to defining the teacher's role in introducing the materials, establishing the relationship between different parts of the Introduction and formalizing the Introduction's role in regard to other parts of the Occupational Exploration Program.

Perceptions of Student Outcomes

The teacher's perceptions of student outcomes were also quite positive. For the most part, teachers felt that the students enjoyed/liked the activities, understood the activities and expressed interest in further exploration of occupations after the Introduction was completed. Since teacher response was fairly positive, only those few instances of negative response will be reported in detail. Six of the fourteen teachers felt that the students were not highly interested in consulting the cluster posters (part of the "Working It Out and Liking It Too" activity). Four of the teachers reported some disinterest on the part of students in starting their personal Occupations Album. Lastly, some teachers felt that large numbers of the students did not understand the directions and the written materials. This set of data is corroborative of the teachers' open-ended comments relative to the Introduction.

Overall Reactions

Across the two strata the most appealing activities were the graffiti poster, the slides and the Right In/Write On booklet. The other activities only received scattered support from the teachers. The three least appealing activities, according to teacher observation were the Occupations Album, Working-It Out and Liking It Too and the slide/tapes. The lack of appeal of the slide/tapes may have occurred in classrooms where the equipment/materials did not function properly. Again, when teachers were asked the related question about which activities were enjoyed most and which were enjoyed least, a similar pattern of response was noted.

Most teachers agreed that the materials were about right for the maturity level of their students. Most teachers would use the Introduction again and would recommend it to other teachers. The instructional quality of the materials was generally rated as being good. With regard to the slide/tape about one half of the teachers felt that 16mm films should be used and more comments from students should be included.

Summary of Results and Recommendations

A positive trend is apparent in the data collected regarding student interest in the materials. Both questionnaire and interview responses indicated that students and teachers were quite receptive to the Introduction. There is a sizeable decrease in eighth grade student interest in the Jeffco and Columbus strata. As was noted earlier, a variety of reasons may have accounted for this decrease. Whatever the underlying causal factors may be, it would seem inappropriate to place undue emphasis on this finding. Eighth graders used the materials at the end of the school year and hence were close to the outer limit of the targetted age range. To alter the materials to accomodate these students may in turn, decrease their effectiveness with somewhat younger students and would be, at best, a questionable undertaking.

Not only was student interest generally high in the materials, but in addition, the motivational aspects of the Introduction must be underscored. During interviews, students reported a dramatic increase in interest in exploring occupations. Thus, as intended, the Introduction could serve as a springboard for other exploratory activities.

In terms of using and understanding the materials, the response was again generally quite positive. There were exceptions however, to this overall result. They are:

1. Understanding the intent and use of the "Likes" list and associated posters;

2. Understanding the nature of the comic strip completion exercise;
3. The need for more directions;
4. The need to "tie" or "cement" ideas in the Introduction together; and
5. The Introduction was only somewhat effective for starting other activities.

Given these findings, it is suggested that product revisors stress the intent of activities to both students and teachers and carefully examine the flow and integration of activities within the Introduction. Furthermore, some added emphasis may be given during in-service training to the teacher's role in the introductory activities.

The fifth point described above, i.e., limited effectiveness of the Introduction as a starting point for other activities may, at first glance, seem contradictory to other findings. It should be noted, however, that the Introduction was designed to interest and motivate students and to introduce them to certain key concepts (grouping, exploring, etc.), not to specify the parts of the program that follow. This specification may be another area that is treated, in some detail, in the in-service training of teachers.

With regard to strata differences, there is a slight tendency in the data for Jeffco students to report a higher level of understanding of materials than Columbus students. But, at the same time, it must be noted that the level of understanding of both strata was more than satisfactory i.e., students were understanding the basic concepts contained in the materials. The higher Jeffco response could probably be attributed to the higher reading and achievement levels of the schools from that stratum.

In conclusion, then, the data is supportive of the impact of the Introduction upon students. That is, the introductory materials motivated students and enchanced their understanding of key concepts. Several problems in implementing the Introduction did occur, however, and should be attended to by revisors. This should improve the quality of the Introduction and increase its already positive effect on students.

III. EVALUATION OF THE TRADE AND FINANCE CLUSTER PACKAGE

The semi-complete cluster package for Trade and Finance, pilot-tested in 1975, consisted of one simulation entitled "Insurance....It's a Risky Business", and three complementary activities: "Bank-On-It", "Keep On Truckin", and "Speak-Out". The materials were pilot-tested in three schools, two in Columbus, Ohio, and one in Jefferson County, Colorado - a total of six classrooms and approximately 175 students.

After participating in the program (See Chapter 2), each class divided into two unequal groups - one to simulate, the other to participate in complementary activities. Upon completion of the activities, each group responded to questionnaires relating to the specific activities in which they had participated and to the program in general. Additionally, several students from each class were interviewed and their teachers completed questionnaires and were interviewed as well.

Data collected from these sources will be reported and organized in terms of (1) the simulation, (2) the complementary activities, and (3) overall perceptions. It should be noted that the school populations utilized in Columbus and Jefferson County were of somewhat different socio-economic status and achievement levels. Differences between these strata have been examined and will be reported where found.

THE SIMULATION

DESCRIPTION

"Insurance....It's a Risky Business" is a group simulation in which students assume the role of automobile insurance workers and customers. Two types of problematic situations are involved in the simulation. One deals with the processes of selling insurance and customer services; the second centers on whether the company should expand into other types of insurance. The simulation basically consists of four parts or phases: the preview; the preparation; the participation; and the summary.

The preview, a synchronized slide/tape entitled "When Lightning Strikes Once....", introduces students to the customer-oriented situation through appealing cartoons and narration. The story of a rather amusing accident and its resolution through the insurance process is designed to interest students and motivate them toward participation in the activities which follow.

In the preparation phase, students read a booklet containing an introduction to insurance work, a brief explanation of simulation, want ads for insurance jobs, and a Job Choice Road Map. Students then use these materials to choose from the following roles: agent, underwriter, claims adjuster, customer services, clerk, actuary, a customer (Ben Elliott), and a secretary who is also a customer (Maria Santana).

Once role selection is completed, students move to the participation phase. At this point, a portion of the classroom is arranged as an insurance office. Each participant receives a file folder containing the materials needed for his/her particular role and a booklet containing job descriptions, responsibilities, and step-by-step directions for that role. A booklet about the insurance business and its procedures, calculations, and costs is also included.

Workers at "The Wreck-Less Insurance Company" become involved in a variety of diversified tasks relating to their roles. Many of the tasks require interactions typical of those which might be found in an insurance office. The agent asks the secretary to write letters and to draw up a Customer Profile

Chart. The agent sells a policy to the customer, then must submit the application to the underwriter. When an accident occurs involving the customer and the secretary (who also carries Wreck-Less insurance, the agent must draw up accident reports with each of them, and submit the claims to the Claims Adjuster. In addition, the customer's policy must be re-submitted to the underwriter for review and possible premium increase.

Early in the simulation, the secretary distributes a memo from the "home office" which explains that the company needs to increase profits, and that a company meeting will be held at a later date to discuss the options of branching into other kinds of insurance and raising premiums. Each staff member is asked to review a fact sheet provided and compile additional information and recommendations for that meeting. In response, the actuary must work up data and charts dealing with company profits and the effects of raising premium rates or branching into life, and/or homeowners'/renters' insurance. The customer services clerk is asked to administer a survey dealing with these issues to company customers (including staff) and to tally the results of the questionnaire. The agent needs to review the Customer Profile Chart for information which may be of use.

The simulation is concluded with the company meeting which is intended not only as a forum for the discussion of company options, but also as a summary for all the activities in which participants have been involved. For a complete listing of role-specific tasks, see Table 1.

Arrow indicates activities which may extend over a period of time

Table 1. Trade and Finance Simulation*
"Insurance....It's a Risky Business"

Part 1	PREVIEW - "WHEN LIGHTNING' STRIKES ONCE"						
Part 2	PREPARATION - ROLE SELECTION						
	Agent	Ben Elliott (Customer)	Maria Santana (Secretary/Customer)	Claims Adjuster	Customer Services Clerk	Underwriter	Actuary
Part 3	Reads "Insurance" Booklet Gives Maria check for a previous claim Asks Maria to write customer & home office about a duplicate policy for a customer. Asks Maria to make Customer Profile Chart Sees Elliott Estimates rates on application for Elliott Gives application to Underwriter	Reads "Insurance" Booklet ↓ Studies information & decides on questions to ask ↓ Sees Agent Fills in application Accident - Studies details	Gets organized Distributes Memos & Fact Sheets Writes letters for Agent ↓ Makes Customer Profile Chart for Agent ↓ Accident - Studies details	Figures Claims on 2 cases ↓ Reads Memo Figures Claims on 2 more cases ↓ Reads "Insurance Booklet" ↓	Reads "Insurance Booklet Reads Memo Reads letters and messages Finishes Booklet ↓ Begins responding to letters and messages. ↓ Takes inventory of customer needs from letters	Process 3 applications ↓ Reads Memo & Fact Sheet Processes Ben's application	Reads Special Memo Reads Memo & Fact Sheet Does work sheets on: Company Profits Makes Graph Reads "Insurance" Booklet Does Life insurance worksheet. ↓
Part 4	Fills out Maria's Accident Report Signs letters Fills out Ben's Accident Report Sends to Claims Adjuster	↓ Fills out Accident Report	Fills out Accident Report Reads "Insurance" Booklet"	Finishes cases begun earlier Processes claims for Elliott and Santana.	Finishes responses to letters ↓ Distributes Surveys Fills out Survey Wraps up letters to cusomters	Reads "Insurance Booklet Reviews a customer policy for rate increase Works up rate increase for Ben Elliott	Fills in Results Sheet Does Homeowners/Renters Worksheet
Part 5	Reads Memo & Fact Sheet Studies Chart Maria made Fills out Survey	Reads letter Reviews Booklet ↓	↓ Takes Profile Chart to Agent & discuss Fills out Survey	Contacts Underwriter for policy review on Elliott Writes drafts for Elliott & Santana Fills out Survey	↓	Fills in "change of premium" form Fills out Survey	Fills in Results sheet Fills out Survey
Part 6	Gets drafts & delivers to Maria & Ben Tells Ben about rate increase Writes outline for meeting	Sees Customer Serv. Clerk Fills out Survey Talks to Agent Thinks about meeting	Draws up meeting agenda, makes copies, and distributes	Gives drafts to Agent Finishes Booklet Studies Fact Sheet Writes outline for meeting	Talks to Ben Elliott Gives him Survey Tallies Surveys Outlines Presentation for meeting.	Gives new premium for Elliott to Agent and explains Writes outline for meeting	Does Raising Premiums Worksheet Fills in Results sheet Writes outline for meeting
Part 7	---------- COMPANY MEETING ----------						

RESULTS

Student Questionnaire Data: Simulation

General Items

Students in six classrooms were adminstered "Your Opinions Again, Please!" after completing the simulation, "Insurance . . .It's a Risky Business." The items of the instrument were classified by three dimensions: interest, use, and understanding. The instrument contained 45 items which assessed students' perceptions of their experiences in the simulation. Of the 45 items, thirty randomly ordered items are general in nature while 15 are specifically related to the content and organization of the simulation. (See Instrumentation Section Chapter 1.) The results are reported by grade (7th and 8th), by strata (Columbus and Jeffco), and by total population. Due to sampling constraints, it was impossible to obtain any 8th grade classrooms in Jeffco and only two eight grade classrooms in Columbus. Strata comparisons when made are based on differences observed between the 7th grade populations only. General item responses of students who participated in both the simulation and the complementary activities were not included in the analysis; however, these students' responses to the specific items of the simulation were included.

Interest (Table 3.1)

The major finding was that the majority of students found the activities interesting and responded positively to the eight items. Over 80% of the students indicated they enjoyed doing the activities and working with other students. Seventy-eight percent felt they would like to try more activities like these. In addition, most students found interests & likes they didn't know about before and indicated they would not have preferred to do the activities other students were doing. Students responded least positively to the items concerning whether they wanted to add things to their Occupations Album (59%) and if other students their age would enjoy these activities (50%). These

TABLE 3.1 Simulation: General
Items dealing with INTEREST

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I enjoyed doing the exploration activities.	YES	95%	0%	95%	87%	55%	73%	91%	55%	83%
	NO	0%	0%	0%	7%	27%	15%	3%	27%	9%
	?	5%	0%	5%	7%	18%	12%	6%	18%	9%
	N	20	0	20	15	11	26	35	11	46
2. I found I had interests and likes that I didn't know about before.	YES	70%	0%	70%	53%	64%	58%	63%	64%	63%
	NO	10%	0%	10%	33%	27%	31%	20%	27%	22%
	?	20%	0%	20%	13%	9%	12%	17%	9%	15%
	N	20	0	20	15	11	26	35	11	46
3. Other students my age would enjoy these activities.	YES	55%	0%	55%	53%	36%	46%	54%	36%	50%
	NO	10%	0%	10%	7%	9%	8%	9%	9%	9%
	?	35%	0%	35%	40%	55%	46%	37%	55%	41%
	N	20	0	20	15	11	26	35	11	46
5. I want to continue to add to my own occupations album.	YES	55%	0%	55%	60%	64%	62%	57%	64%	59%
	NO	25%	0%	25%	13%	27%	19%	20%	27%	22%
	?	20%	0%	20%	27%	9%	19%	23%	9%	20%
	N	20	0	20	15	11	26	35	11	46
11. I enjoyed working with other students.	YES	90%	0%	90%	87%	91%	88%	89%	91%	89%
	NO	5%	0%	5%	13%	0%	8%	9%	0%	7%
	?	5%	0%	5%	0%	9%	4%	3%	9%	4%
	N	20	0	20	15	11	26	35	11	46
14. I didn't like many of the things I did in these activities.	YES	5%	0%	5%	13%	30%	20%	9%	30%	13%
	NO	90%	0%	90%	47%	40%	44%	71%	40%	64%
	?	5%	0%	5%	40%	30%	36%	20%	30%	22%
	N	20	0	20	15	10	25	35	10	45
16. I would like to try more activities like these.	YES	80%	0%	80%	73%	82%	77%	77%	82%	78%
	NO	5%	0%	5%	7%	18%	12%	6%	18%	9%
	?	15%	0%	15%	20%	0%	12%	17%	0%	13%
	N	20	0	20	15	11	26	35	11	46

TABLE 3.1 Simulation: General
Items dealing with INTEREST (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
20. I would rather have done the things the other students were doing.	YES	5%	0%	5%	33%	9%	23%	17%	9%	15%
	NO	80%	0%	80%	40%	45%	42%	63%	45%	59%
	?	15%	0%	15%	27%	45%	35%	20%	45%	26%
	N	20	0	20	15	11	26	35	11	46

latter response patterns correspond to the results obtained for similar items in the Introduction to the Program. (See Chapter 2.)

Due to the small 8th grade sample (n=11), comparisons between grade levels are difficult to justify. However, the results may be revealing an emerging trend, namely that the 7th graders felt more positively about enjoying and participating in the simulation and liking the things that they did. When comparing strata differences (7th grade only), a trend emerges showing that Jeffco students responded more positively to seven of eight items. Jeffco participants seemed to learn more about their interests and likes they didn't know about before (Jeffco = 70%; Columbus = 53%); they liked more things that they did in the activities (Jeffco = 90%; Columbus = 47%) and they were more satisfied doing what they did (Jeffco = 80%; Columbus = 40%). These differences may be attributed to the strata differences in student achievement. Students in Jeffco may have better understood the intent of the simulation and the specific role activities thereby increasing their interest in and enjoyment of the simulation. The next section of this chapter will discuss how well students were able to use and implement the simulation.

Use (Table 3.2)

In the instrument, students were asked to respond to 7 items of which 4 were positively and three were negatively stated. The overall supportive findings reveal students felt there weren't too many students involved in the simulation at the same time (70%), the teachers didn't have to tell them what to do each day (67%), it wasn't too noisy to do these activities (67%); the materials were easy to read (61%) and there was enough space to do these activities (59%). The results reveal one major weakness in the materials, namely lack of clear directions. The majority of students in both strata had difficulty understanding

TABLE 3.2 Simulation: General
Items dealing with USE

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
6. The teacher had to tell us what to do each day.	YES	15%	0%	15%	20%	45%	31%	17%	45%	24%
	NO	75%	0%	75%	73%	45%	62%	74%	45%	67%
	?	10%	0%	10%	7%	9%	8%	9%	9%	9%
	N	20	0	20	15	11	26	35	11	46
7. The Introduction to Exploring Occupations was a good beginning to the things we did.	YES	70%	0%	70%	67%	55%	62%	69%	55%	65%
	NO	5%	0%	5%	20%	0%	12%	11%	0%	9%
	?	25%	0%	25%	13%	45%	27%	20%	45%	26%
	N	20	0	20	15	11	26	35	11	46
10. The materials were easy to read.	YES	60%	0%	60%	60%	64%	62%	60%	64%	61%
	NO	20%	0%	20%	27%	27%	27%	23%	27%	24%
	?	20%	0%	20%	13%	9%	12%	17%	9%	15%
	N	20	0	20	15	11	26	35	11	46
12. There were too many other students involved in the activities at the same time.	YES	30%	0%	30%	13%	9%	12%	23%	9%	20%
	NO	70%	0%	70%	73%	64%	69%	71%	64%	70%
	?	0%	0%	0%	13%	27%	19%	6%	27%	11%
	N	20	0	20	15	11	26	35	11	46
13. There was usually enough space in my classroom to do the activities.	YES	70%	0%	70%	33%	73%	50%	54%	73%	59%
	NO	20%	0%	20%	53%	27%	42%	34%	27%	33%
	?	10%	0%	10%	13%	0%	8%	11%	0%	9%
	N	20	0	20	15	11	26	35	11	46
17. I always knew from the directions what I was supposed to do.	YES	42%	0%	42%	13%	27%	19%	29%	27%	29%
	NO	26%	0%	26%	80%	36%	62%	50%	36%	47%
	?	32%	0%	32%	7%	36%	19%	21%	36%	24%
	N	19	0	19	15	11	26	34	11	45
19. It was too noisy to do many of these activities.	YES	0%	0%	0%	40%	45%	42%	17%	45%	24%
	NO	100%	0%	100%	33%	55%	42%	71%	55%	67%
	?	0%	0%	0%	27%	0%	15%	11%	0%	9%
	N	20	0	20	15	11	26	35	11	46

what to do next in the simulation; however, students in Jeffco could more clearly understand the directions than students in Columbus (Jeffco = 42%; Columbus = 19%). Although the majority of students (61%) found the materials easy to read, there is a definite need for the directions of the simulation to be revised, rewritten and clarified.

There were differences in the 7th and 8th grade response patterns for some items. More eighth graders indicated they received teacher assistance each day (45%) than seventh graders (17%). There are several possible explanations for this difference. Perhaps the 8th graders needed more assistance or were more cognizant of their need to ask for help; or perhaps the teachers may have had a different teaching style and had automatically given their students more assistance. More eighth graders also felt there was enough space to do the activities (8th = 73%; 7th = 54%) and felt it was too noisy to do these activities (8th = 45%; 7th = 17%). These results reveal that unique classroom differences, (i.e., differences in classroom size and arrangement and/or class size) or teacher management style may have affected student use and implementation of the simulation.

Strata differences revealed that students in Jeffco responded more positively to the items relating to having a tolerable noise level in the classroom and having adequate classroom space to complete the simulation. These differences again can be attributed to unique classroom differences and/or various modes of teacher management or style.

Student responses to one item support the findings about the program Introduction (See Chapter 2); that is, the majority of students felt that the Introduction to exploring occupations was a good beginning to their involvement in the simulation (65%).

Understanding (Table 3.3)

Of the 15 understanding items in the instruments, twelve items were positively and three were negatively stated. The items dealt with student understanding of themselves and concepts within the materials including learning more about various work factors. Of the five items dealing with student self-understanding, the results are overwhelmingly positive. The students felt that: they needed to think more about what they want to be (82%); they learned about occupations they might be interested in (80%); they found they could solve problems that people really have on jobs (74%); they learned about skills and abilities they didn't know they had before (65%); and they needed to continue to explore occupations. Strata differences show that Jeffco students responded more positively to the items.

Three items dealt with student understanding of the materials. Overall, 67% of the students felt the activities were not too hard for them to do; however, only 46% responded that they did understand many of the ideas in the materials. When comparing strata differences it becomes apparent that more students in Columbus found the activities hard to do (Columbus = 35%; Jeffco = 15%). When asked if they learned about different occupations from the simulation, 67% of all student responses were positive; however, only 36% of the 8th graders responded positively. Perhaps the eighth graders had previous exposure to the occupations in the simulation in other career education materials, thereby accounting for the lower response rate.

Student responses to the seven items dealing with their increased knowledge about different work factors were consistently positive. The total response set for the items ranged from 95% to 78%. Students indicated they learned most about what a person is responsible for doing in an occupation (95%) and how

TABLE 3.3 Simulation: General
Items dealing with UNDERSTANDING

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
4. I found I could solve problems that people really have on their jobs.	YES	85%	0%	85%	67%	64%	65%	77%	64%	74%
	NO	5%	0%	5%	20%	0%	12%	11%	0%	9%
	?	10%	0%	10%	13%	36%	23%	11%	36%	17%
	N	20	0	20	15	11	26	35	11	46
8. I need to continue exploring occupations.	YES	70%	0%	70%	60%	64%	62%	66%	64%	65%
	NO	10%	0%	10%	13%	9%	12%	11%	9%	11%
	?	20%	0%	20%	27%	27%	27%	23%	27%	24%
	N	20	0	20	15	11	26	35	11	46
9. I learned about occupations that I might be interested in.	YES	90%	0%	90%	67%	82%	73%	80%	82%	80%
	NO	5%	0%	5%	20%	9%	15%	11%	9%	11%
	?	5%	0%	5%	13%	9%	12%	9%	9%	9%
	N	20	0	20	15	11	26	35	11	46
15. I didn't really learn about different occupations from these activities.	YES	15%	0%	15%	20%	27%	23%	17%	27%	20%
	NO	80%	0%	80%	73%	36%	58%	77%	36%	67%
	?	5%	0%	5%	7%	36%	19%	6%	36%	13%
	N	20	0	20	15	11	26	35	11	46
18. I didn't understand many of the ideas in the materials.	YES	25%	0%	25%	47%	27%	38%	34%	27%	33%
	NO	55%	0%	55%	33%	45%	38%	46%	45%	46%
	?	20%	0%	20%	20%	27%	23%	20%	27%	22%
	N	20	0	20	15	11	26	35	11	46
21. I learned I had skills and abilities that I didn't know about before.	YES	70%	0%	70%	60%	64%	62%	66%	64%	65%
	NO	10%	0%	10%	33%	36%	35%	20%	36%	24%
	?	20%	0%	20%	7%	0%	4%	14%	0%	11%
	N	20	0	20	15	11	26	35	11	46
22. Some of the activities were too hard for me to do.	YES	15%	0%	15%	33%	36%	35%	23%	36%	26%
	NO	80%	0%	80%	53%	64%	58%	69%	64%	67%
	?	5%	0%	5%	13%	0%	8%	9%	0%	7%
	N	20	0	20	15	11	26	35	11	46

TABLE 3.3 Simulation: General
Items dealing with UNDERSTANDING (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
23. I need to think more about what I want to be.	YES	83%	0%	83%	73%	91%	81%	79%	91%	82%
	NO	6%	0%	6%	20%	9%	15%	12%	9%	11%
	?	11%	0%	11%	7%	0%	4%	9%	0%	7%
	N	18	0	18	15	11	26	33	11	44
Items dealing with Work Factors: "Since I've tried the Occupational Exploration Activities, I feel I know more about..."										
24. Where different people work.	YES	100%	0%	100%	75%	82%	78%	90%	82%	88%
	NO	0%	0%	0%	17%	9%	13%	7%	9%	7%
	?	0%	0%	0%	8%	9%	9%	3%	9%	5%
	N	18	0	18	12	11	23	30	11	41
25. How people work together on their jobs.	YES	100%	0%	100%	92%	82%	88%	97%	82%	93%
	NO	0%	0%	0%	0%	9%	4%	0%	9%	2%
	?	0%	0%	0%	8%	9%	8%	3%	9%	5%
	N	18	0	18	13	11	24	31	11	42
26. How well people in different occupations like their work.	YES	100%	0%	100%	77%	64%	71%	90%	64%	83%
	NO	0%	0%	0%	15%	18%	17%	6%	18%	10%
	?	0%	0%	0%	8%	18%	13%	3%	18%	7%
	N	18	0	18	13	11	24	31	11	42
27. What special skills are needed for different occupations.	YES	95%	0%	95%	77%	82%	79%	88%	82%	86%
	NO	0%	0%	0%	0%	18%	8%	0%	18%	5%
	?	5%	0%	5%	23%	0%	13%	13%	0%	9%
	N	19	0	19	13	11	24	32	11	43
28. How the community benefits from the work a person does.	YES	83%	0%	83%	92%	55%	74%	87%	55%	78%
	NO	6%	0%	6%	8%	27%	17%	7%	27%	12%
	?	11%	0%	11%	0%	18%	9%	7%	18%	10%
	N	18	0	18	12	11	23	30	11	41

TABLE 3.3 Simulation: General Items dealing with UNDERSTANDING - Work Factors (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
29. What a person is responsible for doing in an occupation.	YES	95%	0%	95%	100%	91%	96%	97%	91%	95%
	NO	0%	0%	0%	0%	9%	4%	0%	9%	2%
	?	5%	0%	5%	0%	0%	0%	3%	0%	2%
	N	19	0	19	14	11	25	33	11	44
30. The steps people need to follow to finish a job.	YES	85%	0%	85%	92%	82%	87%	88%	82%	86%
	NO	5%	0%	5%	0%	18%	9%	3%	18%	7%
	?	10%	0%	10%	8%	0%	4%	9%	0%	7%
	N	20	0	20	12	11	23	32	11	43

people work together on their jobs (93%), and least about how the community benefits from the work a person does (78%). Across the seven items, a trend emerges in which all 7th graders responded more positively to the items with participants from Jeffco (7th grade only) responding more positively on the average. Since the simulation dealt with the Insurance industry, it was surprising that student responses were not higher for the item relating to how the community benefits from the work a person does. It should be noted that most 7th grade students in Columbus (92%) and Jeffco (83%) responded positively to the item; however, only 55% of the 8th graders indicated they learned more about how the community benefits from the work a person does. Again, this may be attributed to their previous exposure to the content material covered in the simulation in other career education or curriculum materials.

SPECIFIC ITEMS

Students responded to fifteen items which related specifically to the content and organization of the insurance simulation. These items also were classified by the dimensions of interest, use and understanding. Six were interest items; six items related to the students' use of materials; two items related to the students' understanding; and the last item recorded the role each student played in the simulation. The first 14 items were cross-tabulated by each role in order to help pinpoint specific role activities which need revision or fine tuning.

Interest (Table 3.4)

After seeing the preview slide tape, "When Lightning Strikes Once", 49% of the students wanted to participate in the insurance simulation. Interest in participation was greatest for Jeffco students (67%) and the 8th grade partici-

TABLE 3.4 Simulation: Specific Items dealing with INTEREST.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. After seeing the slide show "When Lightning Strikes Once", I wanted to participate in the insurance simulation.	YES	67%	0%	67%	17%	64%	34%	45%	64%	49%
	NO	13%	0%	13%	39%	27%	34%	24%	27%	25%
	?	21%	0%	21%	44%	9%	31%	31%	9%	26%
	N	24	0	24	18	11	29	42	11	53
3. It was a lot of fun being part of Wreck-Less Insurance Company.	YES	79%	0%	79%	67%	58%	63%	74%	58%	70%
	NO	8%	0%	8%	11%	33%	20%	10%	33%	15%
	?	13%	0%	13%	22%	8%	17%	17%	8%	15%
	N	24	0	24	18	12	30	42	12	54
4. I wish the insurance activities lasted longer.	YES	83%	0%	83%	39%	42%	40%	63%	42%	58%
	NO	13%	0%	13%	50%	33%	43%	29%	33%	30%
	?	4%	0%	4%	11%	25%	17%	7%	25%	11%
	N	23	0	23	18	12	30	41	12	53
6. Other students my age would enjoy these activities.	YES	71%	0%	71%	39%	25%	33%	57%	25%	50%
	NO	8%	0%	8%	17%	25%	20%	12%	25%	15%
	?	21%	0%	21%	44%	50%	47%	31%	50%	35%
	N	24	0	24	18	12	30	42	12	54
7. The insurance activities would be more interesting for younger students.	YES	22%	0%	22%	22%	17%	20%	22%	17%	21%
	NO	57%	0%	57%	72%	67%	70%	63%	67%	64%
	?	22%	0%	22%	6%	17%	10%	15%	17%	15%
	N	23	0	23	18	12	30	41	12	53
14. I enjoyed the role I played in "Insurance - It's a Risky Business".	YES	100%	0%	100%	71%	42%	59%	88%	42%	77%
	NO	0%	0%	0%	6%	42%	21%	2%	42%	11%
	?	0%	0%	0%	24%	17%	21%	10%	17%	11%
	N	24	0	24	17	12	29	41	12	53

pants in Columbus (64%). Seventh graders in Columbus were uncertain about wanting to participate in the simulation with only 17% responding positively, 39% negatively and 44% responding that they were uncertain. Students in Jeffco and the 8th graders in Columbus may have better understood the intent of the preview and realized that it was to introduce to them the simulation they were to participate in. Perhaps the seventh graders in Columbus could not see the relationship between the preview and the activities that would follow. Student interest in the simulation generally increased as a result of participation. Seventy percent of the students indicated it was a lot of fun being part of Wreck-Less Insurance Company. Seventh graders in Columbus (67%) and Jeffco (79%) showed the most positive response patterns while fewer 8th graders felt it was fun to be in the simulation (58%). When comparing student responses by specific role, the majority of the students in the roles felt it was fun being part of the Insurance Company with the exception of Ben Elliott. Ben Elliott was the role of an insurance customer, and therefore the students who had the role probably didn't feel part of the Insurance Company.

Overall, about half (58%) of the students wished the simulation lasted longer. This response set was relatively consistent across each of the roles with the exception of the agent. Eighty four percent of the agents wanted the simulation to last longer. Strata differences, however, reveal that more students in Jeffco (83%) wanted the simulation to last longer than participants in Columbus (39%). It was reported earlier that students in Jeffco responded more positively to the general interest items. Their higher interest is reinforced by their desire to have the simulation last longer.

When asked to judge if other students would enjoy these activities, 50% of the students responded positively while 35% responded "uncertain." This response set is consistent with the results of a similar item relating to other students' enjoyment of the Introduction to the program. It appears students are reluctant to assess other students' potential receptiveness to the activities. However, more students from Jeffco (71%) were willing to make the assessment as compared to 39% in Columbus.

When asked if the simulation would be more appropriate for younger students, 64% of the students responded negatively. Strata differences were apparent with more students in Columbus feeling that the simulation would not be more suited for younger students. (Columbus = 72%; Jeffco = 57%). Twenty-two percent of the Jeffco participants felt the simulation would be better for younger students while another 22% were uncertain. When comparing responses across roles, 50% of the customer services clerks felt the activities would be more appropriate for younger students while more than half of the underwriters and Ben Elliotts felt the activities would be or might be more appropriate for younger students.

Most students in the different roles indicated they enjoyed the role they played in the simulation (77%). Most seventh graders (Jeffco = 100%; Columbus = 71%) enjoyed the role they played, however, 42% of the eighth graders indicated they didn't enjoy their role. This pattern is consistent with the items in the general interest section; that is, more 7th graders enjoyed and liked what they did than the eighth grade participants. When comparing the responses across roles, the claims adjuster and Ben Elliott were the least favored roles. All students who played the Underwriter enjoyed the role. The following lists the percentage of students who indicated they enjoyed their role: underwriter, 100%; agent, 83%; customer services clerk, 83%; actuary, 82%; secretary, 80%; Ben Elliott, 60%; and claims adjuster, 50%.

Use (Table 3.5)

Fifty-eight percent of the students felt the booklet "Insurance Jobs Close-Up" helped them to choose the role they wanted. Strata comparisons reveal that

TABLE 3.5 Simulation: Specific Items dealing with USE.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
2. The "Insurance Jobs Close-Up" helped me to choose the role I wanted.	YES	67%	0%	67%	50%	55%	52%	60%	55%	58%
	NO	21%	0%	21%	44%	18%	34%	31%	18%	28%
	?	13%	0%	13%	6%	27%	14%	10%	27%	13%
	N	24	0	24	18	11	29	42	11	53
5. I had enough information to do all my work.	YES	63%	0%	63%	39%	58%	47%	52%	58%	54%
	NO	25%	0%	25%	44%	33%	40%	33%	33%	33%
	?	13%	0%	13%	17%	8%	13%	14%	8%	13%
	N	24	0	24	18	12	30	42	12	54
8. All the things we did seemed to fit together well.	YES	71%	0%	71%	39%	42%	40%	57%	42%	54%
	NO	13%	0%	13%	39%	33%	37%	24%	33%	26%
	?	17%	0%	17%	22%	25%	23%	19%	25%	20%
	N	24	0	24	18	12	30	42	12	54
10. At times, I had nothing to do.	YES	38%	0%	38%	28%	50%	37%	33%	50%	37%
	NO	50%	0%	50%	67%	42%	57%	57%	42%	54%
	?	13%	0%	13%	6%	8%	7%	10%	8%	9%
	N	24	0	24	18	12	30	42	12	54
11. At times, I had too much to do.	YES	48%	0%	48%	61%	42%	53%	54%	42%	51%
	NO	43%	0%	43%	28%	33%	30%	37%	33%	36%
	?	9%	0%	9%	11%	25%	17%	10%	25%	13%
	N	23	0	23	18	12	30	41	12	53
12. The company meeting provided a good ending.	YES	29%	0%	29%	50%	45%	48%	38%	45%	40%
	NO	19%	0%	19%	28%	36%	31%	23%	36%	26%
	?	52%	0%	52%	22%	18%	21%	38%	18%	34%
	N	21	0	21	18	11	29	39	11	50

Jeffco students felt the booklet was more helpful (Jeffco = 67%; Columbus = 50%). Specific role comparisons revealed that only 36% of the students who played the role of actuary, 40% playing Ben Elliott and 60% of the customer services clerks felt the booklet helped them select a role they wanted. Although Ben Elliott's role was not tremendously liked by the students, 83% of the customer services clerks and 82% of the actuaries enjoyed their roles with the latter results probably attributed to either: (1) preferences to play a different role or; (2) not knowing in advance what the role would entail or; (3) lack of role interaction with other students in the simulation.

Fifty-four percent of the students felt they had enough information to do their work. Strata differences exist with more students in Jeffco feeling they had enough information to do their work (Jeffco = 63%; Columbus = 39%). When comparing student responses by role, at least half of the customer services clerks, the agents and the claims adjusters felt they did not have enough information to do their tasks.

Overall, fifty-four percent of the participants felt the things they did fit together well. Major differences are apparent when comparing strata (Jeffco = 71%; Columbus = 39%). Students in Jeffco could more readily see the intent of the activities and their relationship to that simulation. Students playing the roles of secretary, Ben Elliott and the customer services clerk had the most difficulty in understanding how the various activities of the simulation were to fit together.

When comparing roles by the amount each person had to do, the results show students generally had too much to do at times (51%) rather than having nothing to do at times (37%). These results need to be interpreted in light of individual student differences, i.e., different students work at different rates. It would be impossible to develop a simulation in which the timing of individual tasks eliminate lag time for all participants. In order to maintain an adequate flow of activity, the simulation should be timed to meet the pace of the average student. With this in mind, of those students participating in each of the respective roles, 60% of the Ben Elliott and 43% of the underwriters and claims adjusters reported having nothing to do at times. In contrast, 75% of the secretaries, 73% of the actuaries, and 50% of the agents and claims adjusters reported having too much to do at times. From these findings alone, it seems that Ben Elliott's role and the underwirter should have more activities; the claim adjuster's activities should be spaced more evenly; and the secretary's and actuary's activities should be reduced to some extent.

The student results indicated that the summary activity, the company meeting, did not provide a good ending to the simulation. Only 40% of the students felt it did while 26% responded negatively and 34% were uncertain. Since so many students were uncertain, perhaps the intent of the company meeting or the wording of the item itself was not clearly understood by the students.

Understanding (Table 3.6)

The results do support the conclusion that students did learn about occupations from their role. Eighty-one percent of the students indicated they learned a lot from their role. The breakdown of student responses by specific role was as follows: Customer Services Clerk, 100%; Actuary, 90%; Underwriter, 86%; Claims Adjuster, 86%; Agent, 83%; Ben Elliott, 80%; and Secretary, 62%. In addition, 65% of the students felt the drawings helped them to understand the materials. Strata comparisons show that seventh graders in Columbus found the drawings to be more helpful (83%) than students in Jeffco (59%). The drawings were designed to help students interpret the directions and follow the storyline in the simulation. Students in Columbus may have found the drawings to be more helpful because of

TABLE 3.6 Simulation: Specific Items dealing with UNDERSTANDING.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
9. I learned a lot from my role.	YES	91%	0%	91%	78%	67%	73%	85%	67%	81%
	NO	0%	0%	0%	22%	8%	17%	10%	8%	9%
	?	9%	0%	9%	0%	25%	10%	5%	25%	9%
	N	23	0	23	18	12	30	41	12	53
13. The drawings helped me to understand the materials.	YES	59%	0%	59%	83%	50%	70%	70%	50%	65%
	NO	18%	0%	18%	6%	17%	10%	13%	17%	13%
	?	23%	0%	23%	11%	33%	20%	17%	33%	21%
	N	22	0	22	18	12	30	40	12	52

their lower reading and comprehension level.

Student Interview Results

In addition to completing the questionnaire, "Your Opinions Again, Please!", three students were randomly chosen from each classroom for individual interviews. Of the three students, one had been a participant in the simulation and two had completed the complementary activities. The results discussed in this section were collected from 7 participants in the insurance simulation.

From those students randomly selected, each role in the simulation was represented with the exception of the claims adjuster. Two students who had played the role of customer services clerk were selected. Five of the seven students indicated they liked the role they played. The underwriter enjoyed filling out forms and deciding whether clients could have insurance. The secretary thought it was fun since she did the same thing secretaries do in a real job. Both of the customer services clerks enjoyed their roles because they were able to work with customers; however, one clerk had trouble knowing how to answer the questions from customers. The actuary liked doing the math problems but felt some students might need help. The agent didn't like the role he played because he didn't have all the materials he needed; things didn't fit well together; he had to fill out a policy; and the claims adjuster had to wait until he completed the policy. One student didn't like his role of Ben Elliott because it seemed boring and there wasn't enough to do.

The students felt other students would like the following things most about the simulation: 1) working with other people on a variety of jobs; 2) feeling that you work in an insurance company; 3) learning how an insurance company works; 4) receiving the materials with the simulation; 5) experiencing a job (n = 2); and 6) because it was more fun than doing regular math.

The students felt other students would like the following things least about the simulation: 1) doing the math (n = 2); 2) figuring out the activities (i.e., accident reports); 3) being a claims adjuster; 4) reading the materials; 5) doing all the work; and 6) having a lot of work pile up.

When asked if they had special problems doing the simulation, 4 of 7 students responded positively. The comments expressed by the four students indicated that lack of clear directions was the major problem. The directions for completing forms, knowing what to do first, and how to answer customer questions were not clear. Six of the seven students felt the simulation represented a realistic work experience. One student would have preferred to have had real customers come into the class as opposed to "paper cases" (eg., letters). All students felt that since they participated in the simulation, they were getting more ideas about what they might like to do when they're older. Students were mixed in opinion when asked if the noise level in the classroom bothered them during the simulation; three students responded yes; one responded no, and three were uncertain. This varied response pattern may be due to uncontrolled classroom effects such as various teacher management styles and differences in classroom size and environment. One student felt the noise was attributed to the "Speak-Out" activity while another student felt it was caused by students moving around in the room.

When asked for recommendations or suggestions to improve the simulation, one student felt nothing needed to be changed. However, suggestions from the other students included:

1. Change the slide tape. The preview didn't provide a good beginning and was difficult to know what it was for.
2. Improve the directions, let the entire group know what the other people in the group were doing.

3. Rewrite the booklets, make the directions clearer.
4. Make it easier to understand about different types of insurance. The book about different types of insurance didn't explain it enough.
5. The slide tape should be viewed again after role selection.
6. The claims adjuster didn't have enough to do. Give that role more to do.
7. Eliminate actuary, didn't need him. He just worked out problems.
8. Give more time to do things (n=2).
9. Have two people doing each role so they could help each other.
10. Don't include so much new vocabulary to learn.
11. Give customer services clerk fewer letters to answer.
12. Provide more stationery.
13. Make sure materials aren't missing.
14. Eliminate the meeting at the end.

Since student interview comments generally express the opinion of only one individual, it is important that each comment be assessed in relation with the data collected from other sources. For example, one student recommended that the actuary role should be eliminated. Most students who assumed the actuary role, however, reported that they enjoyed that role (82%) and learned about occupations (90%). Therefore, the need to eliminate the actuary role based upon one student's recommendation is questionable. Nevertheless, in many cases student interview data and student questionnaire data reveal similar perceptions of various components of the simulation. After examining the student data from both sources, the following conclusions can be made and supported:

1. The directions for the simulation need to be improved.
2. The preview, although moderately effective, needs to be changed to increase initial student interest for participating in the simulation.

3. Initially, more information should be given to the students about the roles (either in preview tape or booklet).
4. The activities for some roles need to be either better balanced, reduced (i.e., actuary, secretary) or expanded (i.e., Ben Elliott, underwriter).
5. The summary activity (i.e., meeting) needs to be modified so that it provides an effective closure of the simulation experience. Perhaps the way it is introduced to the students should be changed at the beginning by placing greater emphasis on the importance, the intent and outcome of the meeting.

When asked to give one word that describes how they felt about the simulation, five responses were positive ("fun", n = 3), "good", and ("glad I did it"). The two negative responses were "dumb" (Ben Elliott) and "rotten" (agent).

Teacher Questionnaire Results (Table 3.7)

After implementing the Trade & Finance cluster package, teachers were asked to complete "Teacher Overall Perceptions" (TOP), a questionnaire designed to record teacher feelings about the cluster package in general and the simulation. The average classroom had ten students participating in the simulation activities with the simulation lasting 11 class periods on the average. In Section III of "TOP" - Perceptions of the Simulation, Part A. - the teachers overall response pattern was neutral when answering either Yes, Somewhat or No to six questions. The majority of teachers (at least 4 of 6) felt the preview was "somewhat" effective in motivating students; the simulation materials were "somewhat" generally well written; and the illustrations "somewhat" increased students' understanding of the simulation materials. Eighty-three percent (5 out of 6) of the teachers felt there were places in the simulation where it was necessary to intervene to maintain student interest, motivation, and/or the flow of activities. Places where teachers specified problems were: when students had to wait for someone else; when students ran out of papers/materials supplied; during the entire simulation; after beginning the first booklet, and when roles were explained (preparation section). Teachers also indicated the need to encourage students to read, settle disputes, acquire additional materials and explain many parts of the activity in more detail (e.g., how to write check, return address, draft, etc.).

In Part B, teachers were asked to check the percentage of students they felt enjoyed/liked and understood various components of the simulation and related concepts. Teachers felt more students enjoyed what they did than understood various components of the materials (e.g., directions, vocabulary).

Table 3.7-Teacher Questionnaire Results

SECTION III: Perceptions of the Simulation

Part A

Percent Responding (n = 6)

	No	Somewhat	Yes
Was the preview effective in motivating students?		67%	33
Was there enough information for students to select roles?	17%	33	50
Were the simulation materials generally well written?		67	33
Did the illustrations increase student understanding of the simulation materials?	17	50	33
Did the situations in the simulation maintain student interest?	17	50	33
Did the students possess adequate skills to do the activities?	25	25	50
Did the summary provide an incentive to explore occupations further?		100	

Were there any places in the simulation where you found it necessary to intervene to maintain student interest, motivation, and/or the flow of activities?

1 No
5 Yes, (Please specify) ____________

Part B

For those students participating in "INSURANCE . . . IT'S A RISKY BUSINESS," check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in "INSURANCE . . . IT'S A RISKY BUSINESS"		17	50	33
Having a realistic occupational problem to solve		17	67	17
Playing different occupational roles		17	33	50
Learning about different occupations		33	33	33
Working with other students		17	50	33
Exploring occupations		33	33	33
Understood:				
The directions	33	33	17	17
The written materials	17	17	67	
The vocabulary	17	50	17	17
The intent of the activities	17	67		17
The intent of the entire package	17	33	17	33
The importance of exploring occupations	17	33	33	17

Eighty-seven percent of the teachers felt at least 50% of the students enjoyed having realistic occupational problems to solve, playing different occupational roles, working with other students, and participating in the simulation. Two thirds of the teachers felt at least half of the students (51-75%) understood the written materials. However, teachers felt most students had trouble understanding the directions, the vocabulary, and the intent of the activities. They were divided in opinion concerning whether students understood the intent of the entire package and the importance of exploring occupations.

The teachers generally indicated it was hard to start the simulation. Students had trouble connecting the filmstrip (preview) with the activities that followed. One teacher commented though, that after the students understood their roles and knew what they were to do, the confusion subsided. Another factor which led to some confusion was the fact there was some material missing in the packages. In spite of these problems mentioned, all teachers indicated they would use the simulation again, with one teacher making acceptance conditional upon revision. Some of the suggestions and recommendations made by the teachers to improve the simulation included:

1. Give students an inventory list of materials that sequence with the activities and roles.
2. Increase number of forms. (Students ran out of forms).
3. Clarify what the claims adjuster was supposed to receive from the agent. (It was noted the claims adjuster was supposed to receive something from the agent, but it wasn't in the agent's book.)

TEACHER INTERVIEW

An indepth interview was conducted with each teacher who implemented the cluster package. Generally, teachers initially felt the implementation of the simulation would not be difficult, and after using the materials, they felt it would be much easier to use them a second time. One teacher felt she would prefer to use the simulation with the ninth grade. Four of the teachers felt the placement of students in the activities did not pose specific implementation problems. One teacher felt students didn't have the feeling of cooperation necessary for working in an office (insurance).

Teachers felt the simulation posed varied implementation problems. The specific problems enumerated were:

1. It was difficult to start the simulation (n = 4).
2. The actuary role required a good student (n = 3).
3. Students weren't interested in the initial reading.
4. Secretary is a key role, need to have student with leadership ability.
5. Confusion in flow of activities (day to day).
6. Some materials were missing (i.e., draft).
7. Inconsistencies between details of accident in slide set and details in booklets.
8. Need to establish more of an office atmosphere. (Next time one teacher would try to create more of an office atmosphere in the classroom).
9. Students failed to read instructions correctly.

Suggestions teachers gave that would improve the materials or their implementation included:

1. Improve preview to the simulation.
2. Add more information via, perhaps, a booklet so teachers could prime students more with regard to the insurance industry.
3. Add more stationery for the insurance simulation.
4. Review simulation instructions.
5. Beef up role of Ben Elliott.

OVERALL SIMULATION TRENDS

Students who participated in the simulation were generally interested in the activities and role that they played. In addition, they reported they gained increased understanding of themselves and occupational work factors. Teachers felt students enjoyed the activities more than they understood the intent of the materials. Students in Jeffco (7th grade only) generally responded more positively to the interest and understanding items; however, students in Columbus also exhibited moderately high interest and understanding.

Students and teachers did report areas of difficulty in using the materials. The greatest difficulty appeared to be caused by the lack of clear directions. Teachers reported it was difficult to "start" the simulation and that some mechanism needs to be developed that would help commence it. The majority of students reported they had difficulty in knowing what they were to do next. In addition to problems with directions, it is possible that it was difficult for students and teachers to assume non-traditional roles in the classroom. In the simulation, students are to assume independent positions and to complete activities independently. Therefore, it may be difficult for the students to realize the need to become self-assertive and not to rely on instructions from their teachers.

Other specific classroom implementation problems when reported, generally reflect specific uncontrollable classroom differences such as varied class size, classroom size, and perhaps teacher management style.

Specific revisions suggested by teachers and students when interviewed paralleled their responses to the questionnaire items. Those recommendations to which considerable attention should be given to include:

1. Improve the preview to the simulation.

2. Provide teachers with more detailed instructions.
3. Improve student and teacher directions and understanding of what is taking place.
    a. Provide students and teachers with an understanding of what the students - teacher interaction should be.
    b. Explain the intent of the preview.
    c. Provide more information about roles and what the students will do in each role.
4. Improve the effectiveness of the summary.
5. Reassess the amount of activity within each role based upon students' input.
    a. Expand Ben Elliott's and the underwriter's role.
    b. Claim adjuster activities should be spaced differently.
    c. Reduce the secretarys and actuary roles.
6. Customer Services Clerk's role could be slightly modified. (50% of students in this role felt it would be better for younger students).

EXPLORATORY ACTIVITIES

DESCRIPTION

Within the Trade and Finance cluster package, three exploratory activities were pilot-tested. These activities, "Bank On It", "Keep On Trucking" and "Speak Out" were used by students not participating in the simulation, "Insurance....It's a Risky Business." It was anticipated that these students would complete all three activities within the duration of the pilot-test. However, in several instances, this may not have occurred.

BANK ON IT

"Bank On It" is an individual exploratory activity which allows the student to carry out arithmetic - oriented transactions which a bank teller encounters in a normal working day. While the student is introduced to work situations which are specific to the occupation of bank teller, he/she will become familiar with some of the basic processes involved in banking. The problem situations are presented to the student on thirty-five transaction cards. Associated with those are twenty-eight information cards introducing new words specific to the banking field. Words in capital letters on the transaction cards indicate that the student will be able to find explanations of those words on the information cards. The activity reinforces basic math skills through their application in a realistic work situation. Hopefully this will enhance the students' ability to perceive the relevancy of math skills to other than academic situations.

KEEP ON TRUCKIN

"Keep On Truckin" is a board game which introduces to students some of the concepts, terms, processes and problems associated with the occupation of independent trucking. While students interact in playing the game, there are opportunities for each individual participant to make occupationally related decisions throughout the activity. The game is designed for two to four participants and lasts for one class period.

SPEAK OUT

"Speak-Out" is a listening activity which consists of three occupational interview tapes and one booklet. The people interviewed on these tapes have jobs which are related to the trade and finance fields. The occupations included are cashier, bank receptionist and auctioneer. The students listen to the people discussing their jobs, the training required, their aspirations and amount of job satisfaction. After listening to the tapes, the students may answer cognitive questions found in the booklet about what they just listened to. In the teachers' booklet, other related activities are suggested for students to increase their exploration skills including guidelines for students to tape their own interviews. "Speak-Out" was designed to be an individual or small group activity, depending on the number of students that can comfortably listen to the cassette recorder at one time. The intent of the activity is to make students aware of different persons' perceptions of their occupations and to introduce them to the interview technique.

RESULTS

Student Questionnaire Data: Exploratory Activities

Ninety-seven students in six classrooms participated in the complementary activities in the Trade & Finance cluster package. After completing the activities, the instrument entitled, "Your Opinions Again, Please!", was administered to the students. Students responded to 30 general items and a maximum of 19 specific items. The specific items related to "Speak-Out" (n = 7), "Bank On It" (n = 6), and to "Keep On Truckin" (n = 6). Most students tried "Bank On It" (n = 94) and "Keep On Truckin" (n = 93) with fewer students participating in "Speak-Out" (n = 84). The seventh grade sample (n = 74) included 39 students from Jeffco and 35 from Columbus. The eighth grade sample (n = 22) consisted of participants from Columbus only. Due to the absence of an 8th grade sample from Jeffco, it is difficult to make grade level interpretations across the data. Strata comparisons where made were based on the results of the seventh graders. General item responses of students who participated in both simulation and the complementary activities were not included in the analysis; however, these students' responses to the specific items relating to the complementary activities were included.

General Items

Interest (Table 3.8)

Students responded to eight statements which related to their interest in and enjoyment from the activities. These items were randomly ordered and consisted of six positively and two negatively phrased statements.

The first general finding is that students found the complementary activities interesting and enjoyable. Over 80% of the students felt they enjoyed doing the activities, working with other students and indicated they would like to try more activities like these. Seventy percent indicated they found interests and likes they didn't know they had before. Students were generally satisfied that they participated in the complementary activities as opposed to the simulation (64%). Only 20% of the students indicated they would have preferred to do the simulation while 17% were uncertain. Students were more neutral concerning their responses to wanting to continue to add to their occupations album and whether other students their age would enjoy these activities. Strata differences reveal that students in Columbus responded slightly more positively to 6 of the items. Students generally had similar perceptions of the materials, with the exception that 76% of the eighth graders (Columbus only) expressed a greater preference for doing the complementary activities rather than the simulation. In addition, more students in Columbus (92%) than Jeffco (82%) enjoyed working with their classmates. In conclusion, the results show that students enjoyed being part of these activities with mixed feelings expressed about continuing to use the occupations album.

TABLE 3.8 Complementary Activities: General
Items dealing with INTEREST

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I enjoyed doing the exploration activities.	YES	90%	0%	90%	81%	86%	83%	85%	86%	86%
	NO	3%	0%	3%	8%	5%	7%	5%	5%	5%
	?	8%	0%	8%	11%	9%	10%	9%	9%	9%
	N	39	0	39	36	22	58	75	22	97
2. I found I had interests and likes that I didn't know about before.	YES	67%	0%	67%	75%	68%	72%	71%	68%	70%
	NO	21%	0%	21%	11%	23%	16%	16%	23%	18%
	?	13%	0%	13%	14%	9%	12%	13%	9%	12%
	N	39	0	39	36	22	58	75	22	97
3. Other students my age would enjoy these activities.	YES	59%	0%	59%	61%	50%	57%	60%	50%	58%
	NO	5%	0%	5%	3%	5%	3%	4%	5%	4%
	?	36%	0%	36%	36%	45%	40%	36%	45%	38%
	N	39	0	39	36	22	58	75	22	97
5. I want to continue to add to my own occupations album.	YES	45%	0%	45%	50%	55%	52%	47%	55%	49%
	NO	18%	0%	18%	17%	18%	17%	18%	18%	18%
	?	37%	0%	37%	33%	27%	31%	35%	27%	33%
	N	38	0	38	36	22	58	74	22	96
11. I enjoyed working with other students.	YES	82%	0%	82%	92%	91%	91%	87%	91%	88%
	NO	8%	0%	8%	3%	5%	3%	5%	5%	5%
	?	10%	0%	10%	6%	5%	5%	8%	5%	7%
	N	39	0	39	36	22	58	75	22	97
14. I didn't like many of the things I did in these activities.	YES	18%	0%	18%	25%	10%	19%	22%	10%	19%
	NO	66%	0%	66%	61%	57%	60%	64%	57%	62%
	?	16%	0%	16%	14%	33%	21%	15%	33%	19%
	N	38	0	38	36	21	57	74	21	95
16. I would like to try more activities like these.	YES	79%	0%	79%	86%	81%	84%	82%	81%	82%
	NO	10%	0%	10%	9%	10%	9%	9%	10%	9%
	?	10%	0%	10%	6%	10%	7%	8%	10%	8%
	N	39	0	39	35	21	56	74	21	95

TABLE 3.8 Complementary Activities: General
Items dealing with INTEREST (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
20. I would rather have done the things other students were doing.	YES	28%	0%	28%	17%	10%	14%	23%	10%	20%
	NO	62%	0%	62%	58%	76%	65%	60%	76%	64%
	?	10%	0%	10%	25%	14%	21%	17%	14%	17%
	N	39	0	39	36	21	57	75	21	96

Use (Table 3.9)

In "Your Opinions Again, Please!", students responded to seven general items which related to their ability to use the materials. These items consisted of four positive and three negative statements which were randomly ordered in the instrument.

Students overwhelmingly felt the materials were easy to read (87%) with students in Columbus responding more positively (Columbus = 97%; Jeffco = 77%). Twenty-one percent of the students in Jeffco responded "uncertain." This finding is significant since the Columbus sample represented a lower SES population strata and its students' achievement profile was somewhat lower. Unlike results from the simulation, the majority of students felt they could understand what they were to do from the directions (50%) and that the teacher didn't have to tell them what to do each day (76%). While more students in Columbus understood the directions, (Columbus = 61%; Jeffco = 51%), only slight differences were noted by strata for the amount of teacher assistance needed in the classroom. Grade level differences revealed that more eighth graders reported that teacher assistance wasn't needed on a day to day basis (8th = 91%; 7th = 72%), but no grade level differences were found concerning student understanding of directions. This is maybe due to unique teacher management styles.

Other student responses imply that unique classroom environments probably had an impact on the implementation of these materials. Students generally felt there was enough space in the classroom to implement the activities (73%), that it wasn't too noisy to do the activities (72%), and that there weren't too many students involved in the activities at the same time (70%). When comparing grade level and strata differences, differences between sub-populations are apparent.

TABLE 3.9 Complementary Activities: General
Items dealing with USE

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
6. The teacher had to tell us what to do each day.	YES	21%	0%	21%	11%	5%	9%	16%	5%	14%
	NO	74%	0%	74%	69%	91%	77%	72%	91%	76%
	?	5%	0%	5%	20%	5%	14%	12%	5%	10%
	N	39	0	39	35	22	57	74	22	96
7. The Introduction to Exploring Occupations was a good beginning to the things we did.	YES	79%	0%	79%	69%	64%	67%	74%	64%	72%
	NO	0%	0%	0%	17%	14%	16%	8%	14%	9%
	?	21%	0%	21%	14%	23%	18%	18%	23%	19%
	N	39	0	39	35	22	57	74	22	96
10. The materials were easy to read.	YES	77%	0%	77%	97%	86%	93%	87%	86%	87%
	NO	3%	0%	3%	0%	5%	2%	1%	5%	2%
	?	21%	0%	21%	3%	9%	5%	12%	9%	11%
	N	39	0	39	36	22	58	75	22	97
12. There were too many other students involved in the activities at the same time.	YES	15%	0%	15%	33%	5%	23%	24%	5%	20%
	NO	74%	0%	74%	56%	86%	67%	65%	86%	70%
	?	10%	0%	10%	11%	10%	11%	11%	10%	10%
	N	39	0	39	36	21	57	75	21	96
13. There was usually enough space in my classroom to do the activities.	YES	67%	0%	67%	69%	90%	77%	68%	90%	73%
	NO	26%	0%	26%	17%	10%	14%	21%	10%	19%
	?	8%	0%	8%	14%	0%	9%	11%	0%	8%
	N	39	0	39	36	21	57	75	21	96
17. I always knew from the directions what I was supposed to do.	YES	51%	0%	51%	61%	57%	60%	56%	57%	56%
	NO	26%	0%	26%	25%	24%	25%	25%	24%	25%
	?	23%	0%	23%	14%	19%	16%	19%	19%	19%
	N	39	0	39	36	21	57	75	21	96
19. It was too noisy to do many of these activities.	YES	13%	0%	13%	23%	5%	16%	18%	5%	15%
	NO	79%	0%	79%	54%	86%	66%	68%	86%	72%
	?	8%	0%	8%	23%	10%	18%	15%	10%	14%
	N	39	0	39	35	21	56	74	21	95

TABLE 3.10 Complementary Activities: General
Items dealing with UNDERSTANDING

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
4. I found I could solve problems that people really have on their jobs.	YES	69%	0%	69%	50%	45%	48%	60%	45%	57%
	NO	10%	0%	10%	6%	18%	10%	8%	18%	10%
	?	21%	0%	21%	44%	36%	41%	32%	36%	33%
	N	39	0	39	36	22	58	75	22	97
8. I need to continue exploring occupations.	YES	59%	0%	59%	56%	55%	55%	57%	55%	57%
	NO	10%	0%	10%	17%	18%	17%	13%	18%	14%
	?	31%	0%	31%	28%	27%	28%	29%	27%	29%
	N	39	0	39	36	22	58	75	22	97
9. I learned about occupations that I might be interested in.	YES	71%	0%	71%	83%	86%	84%	77%	86%	79%
	NO	26%	0%	26%	9%	10%	9%	18%	10%	16%
	?	3%	0%	3%	9%	5%	7%	5%	5%	5%
	N	38	0	38	35	21	56	73	21	94
15. I didn't really learn about different occupations from these activities.	YES	21%	0%	21%	20%	19%	20%	20%	19%	20%
	NO	64%	0%	64%	69%	57%	64%	66%	57%	64%
	?	15%	0%	15%	11%	24%	16%	14%	24%	16%
	N	39	0	39	35	21	56	74	21	95
18. I didn't understand many of the ideas in the materials.	YES	28%	0%	28%	31%	14%	25%	29%	14%	26%
	NO	67%	0%	67%	61%	76%	67%	64%	76%	67%
	?	5%	0%	5%	8%	10%	9%	7%	10%	7%
	N	39	0	39	36	21	57	75	21	96
21. I learned I had skills and abilities that I didn't know about before.	YES	51%	0%	51%	51%	57%	54%	51%	57%	53%
	NO	38%	0%	38%	31%	29%	30%	35%	29%	34%
	?	10%	0%	10%	17%	14%	16%	14%	14%	14%
	N	39	0	39	35	21	56	74	21	95
22. Some of the activities were too hard for me to do.	YES	10%	0%	10%	8%	10%	9%	9%	10%	9%
	NO	90%	0%	90%	86%	81%	84%	88%	81%	86%
	?	0%	0%	0%	6%	10%	7%	3%	10%	4%
	N	39	0	39	36	21	57	75	21	96

TABLE 3.10 Complementary Activities: General
Items dealing with UNDERSTANDING (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
23. I need to think more about what I want to be.	YES	74%	0%	74%	72%	71%	72%	73%	71%	73%
	NO	16%	0%	16%	22%	24%	23%	19%	24%	20%
	?	11%	0%	11%	6%	5%	5%	8%	5%	7%
	N	38	0	38	36	21	57	74	21	95

Items dealing with Work Factors:

"Since I've tried the Occupational Exploration activities, I feel I know more about..."

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
24. Where different people work.	YES	87%	0%	87%	86%	86%	86%	86%	86%	86%
	NO	8%	0%	8%	8%	10%	9%	8%	10%	8%
	?	5%	0%	5%	6%	5%	5%	5%	5%	5%
	N	38	0	38	36	21	57	74	21	95
25. How people work together on their jobs.	YES	82%	0%	82%	81%	90%	84%	81%	90%	83%
	NO	13%	0%	13%	8%	5%	7%	11%	5%	9%
	?	5%	0%	5%	11%	5%	9%	8%	5%	7%
	N	38	0	38	36	21	57	74	21	95
26. How well people in different occupations like their work.	YES	79%	0%	79%	77%	86%	80%	78%	86%	80%
	NO	8%	0%	8%	17%	0%	11%	12%	0%	10%
	?	13%	0%	13%	6%	14%	9%	10%	14%	11%
	N	38	0	38	35	21	56	73	21	94
27. What special skills are needed for different occupations.	YES	84%	0%	84%	94%	81%	89%	89%	81%	87%
	NO	5%	0%	5%	0%	10%	4%	3%	10%	4%
	?	11%	0%	11%	6%	10%	7%	8%	10%	9%
	N	38	0	38	35	21	56	73	21	94
28. How the community benefits from the work a person does.	YES	76%	0%	76%	66%	67%	66%	71%	67%	70%
	NO	8%	0%	8%	23%	29%	25%	15%	29%	18%
	?	16%	0%	16%	11%	5%	9%	14%	5%	12%
	N	38	0	38	35	21	56	73	21	94

TABLE 3.10 Complementary Activities: General Items dealing with UNDERSTANDING - Work Factors (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
29. What a person is responsible for doing in an occupation.	YES	92%	0%	92%	80%	95%	86%	86%	95%	88%
	NO	5%	0%	5%	9%	0%	5%	7%	0%	5%
	?	3%	0%	3%	11%	5%	9%	7%	5%	6%
	N	38	0	38	35	21	56	73	21	94
30. The steps people need to follow to finish a job.	YES	73%	0%	73%	58%	76%	65%	66%	76%	68%
	NO	8%	0%	8%	22%	10%	18%	15%	10%	14%
	?	19%	0%	19%	19%	14%	18%	19%	14%	18%
	N	37	0	37	36	21	57	73	21	94

The most apparent finding is that 8th graders (Columbus only) reported fewer implementation problems concerning having sufficient classroom space (8th = 90%; 7th = 68%); a tolerable noise level (8th = 86%; 7th = 68%), and a manageable number of students involved in the activities (8th = 86%; 7th = 65%).

The student responses support the earlier findings to the program Introduction. Overall, 72% of the students felt the introduction to exploring occupations provided them with a good beginning to their experiences in the [illegible]lementary activities. Seventh graders were more positive than 8th graders which coincides with the 7th graders' higher interest in the Introduction activities (See Chapter 2).

Understanding (Table 3.10)

Of the fifteen items measuring student understanding, twelve were positively stated and three were negatively stated. The items dealt with student understanding of themselves, the materials and concepts within the materials including work factors. Of the five items dealing with student self-understanding, the results are moderately positive. The majority of students felt they learned about occupations they might be interested in (79%); they needed to think more about what they wanted to be (73%); they needed to continue to keep exploring occupations (57%); they learned about occupations they might be interested in (57%); and they found they could solve problems people really have on their jobs (57%).

Results Regarding Specific Complementary Activities

Specific Items

Speak-Out (Table 3.11)

Student interest in the "Speak-Out" activity was moderate. Overall, 34%

TABLE 3.11 Complementary Activities: Specific Items dealing with SPEAK-OUT.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I would like to interview more people in different occupations.	YES	83%	0%	83%	41%	63%	50%	65%	63%	64%
	NO	8%	0%	8%	24%	26%	25%	15%	26%	18%
	?	8%	0%	8%	34%	11%	25%	20%	11%	18%
	N	36	0	36	29	19	48	65	19	84
2. I now know a lot of questions to ask someone in a job.	YES	67%	0%	67%	72%	79%	75%	69%	79%	71%
	NO	19%	0%	19%	7%	5%	6%	14%	5%	12%
	?	14%	0%	14%	21%	16%	19%	17%	16%	17%
	N	36	0	36	29	19	48	65	19	84
3. I never thought of talking to people about their work before.	YES	50%	0%	50%	41%	32%	38%	46%	32%	43%
	NO	39%	0%	39%	41%	58%	48%	40%	58%	44%
	?	11%	0%	11%	17%	11%	15%	14%	11%	13%
	N	36	0	36	29	19	48	65	19	84
4. All people feel the same about their jobs.	YES	14%	0%	14%	0%	11%	4%	8%	11%	8%
	NO	83%	0%	83%	97%	79%	90%	89%	79%	87%
	?	3%	0%	3%	3%	11%	6%	3%	11%	5%
	N	35	0	35	29	19	48	64	19	83
5. I didn't have any trouble using the tapes and the recorder.	YES	64%	0%	64%	48%	47%	48%	57%	47%	55%
	NO	33%	0%	33%	45%	47%	46%	38%	47%	40%
	?	3%	0%	3%	7%	5%	6%	5%	5%	5%
	N	36	0	36	29	19	48	65	19	84
6. This activity wasn't very interesting.	YES	17%	0%	17%	41%	53%	46%	28%	53%	34%
	NO	63%	0%	63%	31%	42%	35%	48%	42%	47%
	?	20%	0%	20%	28%	5%	19%	23%	5%	19%
	N	35	0	35	29	19	48	64	19	83
7. There were too many students trying to listen at one time.	YES	22%	0%	22%	31%	42%	35%	26%	42%	30%
	NO	72%	0%	72%	45%	53%	48%	60%	53%	58%
	?	6%	0%	6%	24%	5%	17%	14%	5%	12%
	N	36	0	36	29	19	48	65	19	84

of the students felt the activity wasn't interesting with 19% responding "uncertain." There are reported differences in student interest by strata. More students in Jeffco (63%) than Columbus (31%) felt the activity was very interesting. There are varied interpretations which can be offered to explain these differences. Perhaps students in Jeffco had a longer attention span and thereby listened more attentively to the tapes. In addition, the double negative stem of this item may have caused confusion in student responses. Perhaps students in Jeffco had a greater opportunity to interview people in other occupations, and in turn that could account for their greater interest. One finding which helps to support this interpretation is that more students in Jeffco (83%) than in Columbus (50%) indicated they would like to interview more people in different occupations.

Students reported having some difficulty using the tapes and recorder and that in some classes there were too many students trying to listen to the tapes at the same time. In general, students in Jeffco had less trouble with this activity. Perhaps if clearer directions are included for students on how to operate the tape recorders or if teachers could be told to demonstrate to the students how to use the recorders, some of the implementation problems could be eliminated.

Speak-Out was developed with the intent of presenting to students different persons' perceptions of their occupations. Overwhelmingly, students who participated in Speak-Out felt all people do not feel the same about their jobs (87%). Most students felt they now know a lot of questions to ask someone about their job (71%). In addition, 43% of the students stated they never thought of talking to people about their work before participating in this activity. These outcomes are significant since they reveal that Speak-Out has introduced students to a new and accessible source of occupational information. These findings support the recommendation of continued inclusion of this activity in the cluster package. Due to the moderate level of reported student interest, it is also recommendable that the interview format be modified to increase student interest. Possible alterations could include: shortening of the interviews, have one student interview the people, alter the interview questions, and change the current structure/format of the tape.

Keep On Truckin (Table 3.12)

The overall results support that "Keep On Truckin" was a successful, complementary activity. For each item (n = 6), student responses from Columbus were more positive. Students found the game fun to play (91%), and most students (68%) indicated they wanted to play the game more than once. Besides finding the activity interesting, students found the rules of the game easy to understand (90%). Students also indicated having high understanding of the strategy needed to win the game. Students learned that winning the game was partly based on making good decisions (84%). Students also reported that they learned some of the things truckers have to do in order to run their business (81%). Sixty percent of the students stated they didn't realize trucking was such a complicated business. Other student comments concerning this activity are found in the student interview section. In conclusion, this activity was seen to be fairly well received by the students; however, minor revisions may be needed as will be reported in later sections.

Bank On It (Table 3.13)

Compared to Keep On Truckin, fewer students found Bank On it interesting. Thirty-three percent of the students felt the activity wasn't interesting while

TABLE 3.12 Complementary Activities: Specific Items dealing with KEEP ON TRUCKIN'.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
8. The trucking game was fun.	YES	82%	0%	82%	95%	100%	97%	89%	100%	91%
	NO	6%	0%	6%	0%	0%	0%	3%	0%	2%
	?	12%	0%	12%	5%	0%	3%	8%	0%	6%
	N	34	0	34	37	22	59	71	22	93
9. I learned some of the things truckers have to do in order to run their business.	YES	74%	0%	74%	89%	77%	85%	82%	77%	81%
	NO	24%	0%	24%	5%	14%	8%	14%	14%	14%
	?	3%	0%	3%	5%	9%	7%	4%	9%	5%
	N	34	0	34	37	22	59	71	22	93
10. The rules of the game were easy to understand.	YES	85%	0%	85%	92%	95%	93%	89%	95%	90%
	NO	9%	0%	9%	0%	5%	2%	4%	5%	4%
	?	6%	0%	6%	8%	0%	5%	7%	0%	5%
	N	34	0	34	37	22	59	71	22	93
11. I would not like to play the game more than once.	YES	41%	0%	41%	22%	18%	20%	31%	18%	28%
	NO	56%	0%	56%	76%	73%	75%	66%	73%	68%
	?	3%	0%	3%	3%	9%	5%	3%	9%	4%
	N	34	0	34	37	22	59	71	22	93
12. I didn't realize trucking was such a complicated business.	YES	53%	0%	53%	65%	64%	64%	59%	64%	60%
	NO	35%	0%	35%	19%	32%	24%	27%	32%	28%
	?	12%	0%	12%	16%	5%	12%	14%	5%	12%
	N	34	0	34	37	22	59	71	22	93
13. I learned that winning the game was partly based on making a good decision.	YES	76%	0%	76%	92%	82%	88%	85%	82%	84%
	NO	18%	0%	18%	8%	5%	7%	13%	5%	11%
	?	6%	0%	6%	0%	14%	5%	3%	14%	5%
	N	34	0	34	37	22	59	71	22	93

TABLE 3.13 Complementary Activities: Specific Items dealing with BANK ON IT.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
14. It was easy to do the math.	YES	69%	0%	69%	75%	55%	67%	72%	55%	68%
	NO	21%	0%	21%	6%	10%	8%	15%	10%	14%
	?	10%	0%	10%	19%	35%	25%	14%	35%	18%
	N	42	0	42	32	20	52	74	20	94
15. I learned about how it feels to be a bank teller.	YES	79%	0%	79%	66%	75%	69%	73%	75%	73%
	NO	14%	0%	14%	16%	25%	19%	15%	25%	17%
	?	7%	0%	7%	19%	0%	12%	12%	0%	10%
	N	42	0	42	32	20	52	74	20	94
16. This activity was not very interesting.	YES	33%	0%	33%	31%	35%	33%	32%	35%	33%
	NO	52%	0%	52%	47%	55%	50%	50%	55%	51%
	?	14%	0%	14%	22%	10%	17%	18%	10%	16%
	N	42	0	42	32	20	52	74	20	94
17. The information cards did not help.	YES	36%	0%	36%	38%	40%	38%	36%	40%	37%
	NO	57%	0%	57%	50%	40%	46%	54%	40%	51%
	?	7%	0%	7%	13%	20%	15%	9%	20%	12%
	N	42	0	42	32	20	52	74	20	94
18. The banking situations were easy to understand.	YES	69%	0%	69%	69%	65%	67%	69%	65%	68%
	NO	17%	0%	17%	9%	10%	10%	14%	10%	13%
	?	14%	0%	14%	22%	25%	23%	18%	25%	19%
	N	42	0	42	32	20	52	74	20	94
19. There were to many transactions to do.	YES	29%	0%	29%	25%	35%	29%	27%	35%	29%
	NO	55%	0%	55%	50%	55%	52%	53%	55%	53%
	?	17%	0%	17%	25%	10%	19%	20%	10%	18%
	N	42	0	42	32	20	52	74	20	94

16% were uncertain. Student responses to the other items reveal they were less positive about this activity than others in the cluster package. Although most students felt it was easy to do the math (68%) and that the banking situations were easy to understand (68%), approximately one third of the students felt there were too many transactions to do and that the information cards did not help them to complete the bank transactions. Student interest in the activity might be increased if the number of transactions were reduced, or if students were told that it's not necessary to do all of them. Most students participating in the activity did indicate they learned how it feels to be a bank teller (73%) which indicates students gained understanding of the occupation.

STUDENT INTERVIEW RESULTS

In addition to completing the questionnaire "Your Opinions Again, Please!", students were randomly chosen from the classroom for individual interviews. Students were asked what they liked most and least about each of the activities. In addition, they offered suggestions on how to improve the activities.

Speak-Out

The things students indicated they liked most about "Speak-Out" included: the auctioneer's chant, the cashier, learning about different jobs, learning how to give an interview, and that the activity was interesting. Students felt they liked the following things least about the activities: the tapes were too long, it was difficult to hear the tape (n = 2), and some of the questions asked by the interviewer were unrelated to the person's work. After listening to the cashier tape, one student decided that the occupation was too complicated for him/her.

In one 7th grade classroom in Columbus, all students who participated in the complementary activities were asked by their teacher to comment on paper about their perceptions of the activities. In relation to Speak-Out, students indicated for the most part that they enjoyed listening to the tapes. Some students felt the tapes should be longer and some felt they should be shorter and some felt they were good as they are. Other student comments included:

- it was hard to hear the tapes
- the questions were good
- the three people interviewed enjoyed their jobs, which was good since they didn't seem like exciting occupations except maybe the auctioneer
- some of the things said weren't necessary
- the tapes were interesting and covered a lot of information
- I learned something about each job that they talked about
- I didn't like it when they read off facts; I liked the part where the person is actually interviewed
- there was nothing wrong with this activity; I learned a lot about some unusual occupations
- the tapes were a little boring; I learned some good questions to ask if I were going to interview somebody
- I liked the interview, but you should have asked harder questions
- the tapes just didn't "grab my leg."

One student suggested in addition to the tapes, people should come to the classroom and talk about their jobs. Other suggestions made by the students interviewed included: have people speak louder, provide more blank tapes for students to do their own interview, have people talk less, the tapes should last longer, the tapes should be shorter and more fun, and a better quality tape should be used to improve the clarity of sound.

Keep On Truckin

Students interviewed indicated they liked the following things most about the "Truckin Game." They felt the hazards were good, it was good as a game, winning and playing the game was fun (n = 4), and they got to learn about the chances you have to take as a truck driver. The same students also felt the activity could have gone more into the trucking business, it was too complicated, and it wasn't long enough. They disliked: the way they had to pick cargo, the blank card in the advantage pile, losing a turn, being sent back to gas station, the way it was set up, and having to wait for your turn. Two students felt there was nothing they disliked about it.

Additional comments collected from one 7th grade Columbus classroom revealed that students stated:

- the trucking game was fun (n = 8)
- it gets boring after you play it 3 times (n = 4)
- the game should be longer (n = 9)
- the game was fast moving and there was a lot of action
- I never thought there were so many dangers & problems in truck driving

Students interviewed offered suggestions and recommendations to improve or "fine tune" the game. These suggestions were to: include more about the trucking business, and increase the suspense of the hazards. Additional suggestions collected from other students included:

- increase the number of advantage squares,
- add more interesting situations in the hazards,
- add more to the game,
- players should be able to pick the cargo they want,
- the gas station should be closer to the "out of gas" square,

- some of the hazards didn't pertain to all of the cargo,
- interview someone in trucking for Speak-Out,
- more points should be given if you land on a block dot,
- add more "go back to gas station" squares.

Students also wrote advantages and hazards that could be incorporated within the game. The examples of advantages are:

- You hit a stretch of newly paved road. The going's good, so move ahead 3 spaces.
- Your trucking friend recommends a good carry-out on your route, you take his advice and stop there. Add 2 points to your score.

Some examples of hazards suggested by students are:

- Go back to the beginning of game
- You have no snow tires and when you hit an icy road you slide off the road. Lose one turn while waiting for tow truck.
- Your truck has just hit a cow. Pay fine of five points.
- You encounter an unexpected detour which causes you to be delayed. Lose 2 points or 1 turn.

Bank On It

Students participating in Bank On It reported they liked the following things most about the activity: learning about other jobs in banking, learning new terms, being a bank teller, doing the math, working out the description cards, and completing the question sheets. Things the students liked least included: the math problems (too easy and too many); the information cards (not helpful); and that the activity was too boring and repetitious. Two students felt there was nothing wrong with the activity and liked all of it.

Comments collected from students of a 7th grade classroom in Columbus included:

1. I enjoyed the activity (n = 7).
2. It was boring (n = 4).
3. The activity was a little too long (n = 3).
4. Liked learning about loans and banking (n = 3).
5. It was fun getting the correct answer (n = 2).
6. Had a little trouble with some cards, didn't understand them (n = 2).
7. The information cards helped a lot.
8. The names of the customers were good.
9. It helped me a great deal in working with numbers.
10. Liked the story problems.
11. The problems were a little difficult.
12. Some of the problems were too easy.

The students interviewed offered the following suggestions for improvement: to reduce the number of problems and amount of detail on information cards, to change the format in order to reduce repetitiousness, and to remove the answer cards (to prevent students from cheating).

Based upon the comments from the students, it seems the activity was too long and repetitious and perhaps the number of bank transactions should be reduced. Students did report that they enjoyed the activity and did learn about banking, banking occupations and the relationship between math skills and banking.

TEACHER QUESTIONNAIRE RESULTS (Table 3.14)

After implementing the Trade & Finance cluster package, teachers were asked to complete "Teacher Overall Perceptions" (TOP), a questionnaire designed

Table 3.14 Teacher Questionnaire Results

SECTION IV: Perceptions of the Other Exploratory Activities

Part A

Percent Responding (n = 6)

	No	Somewhat	Yes
Was it easy for students to shift from one activity to another?			100%
Were these other exploratory activities reasonable complements to the simulation?		33%	67
Did these activities hold the student's interest?		50	50
Did the stories included in many of the activities appeal to students?		50	50
Did the illustrations increase student understanding of the activities?	33%	33	33
Were the materials generally well written or structured?	17		83

Were there any places in these other exploratory activities where you found it necessary to intervene to maintain student interest, motivation and/or the flow of activities?

17 No
50 Yes, (Please specify) ______
33 NR

Part B

For those students participating in "SPEAK-OUT," "BANK ON IT," and "KEEP ON TRUCKIN'," check the percentage who you feel:

	Percentage of Student			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in:				
SPEAK-OUT	33%		50%	17%
BANK ON IT	33	17	50	
KEEP ON TRUCKIN'			17	83
Learning about different occupations		17	67	17
Working with other students		17	50	33
Exploring occupations		17	67	17
Understood:				
The directions			33	67
The written material			33	67
The vocabulary			33	67
The intent of the activities		50	17	33
The intent of the entire package		50	17	33
The importance of exploring occupations		58*	25*	33

to record teacher feelings about the complementary activities and information about the cluster package. In this instrument teachers revealed that on the average, students needed 7 class periods to complete the activities (ranging from 2 to 17 class periods). In the average classroom, 20 students participated in the activities (with the number of participants in each classroom ranging from 8 to 26).

In Section IV of the "TOP", the teachers' responses showed generally positive feelings toward the activities. All of the teachers felt it was easy for students to shift from one activity to another. The majority indicated they felt these activities were generally well written or structured and were a reasonable complement to the simulation. For the most part, teachers felt the activities held the students' interest and that the stories (story-line) included in the activities appealed to students. Of the specific activities, all teachers felt most students enjoyed "Keep On Truckin'", and most teachers felt most students enjoyed "Speak-Out." Teachers were more divided on students liking the "Bank On It" activity. In addition, most teachers (83%) felt at least the majority (51-76%) of students liked: learning about different occupations, working with other students, and exploring occupations. When asked about student understanding, all teachers felt at least the majority of students understood the directions, the written material, and the vocabulary. Teachers were more divided in opinion concerning student understanding of the intent of the activities and the program.

When using the activities, three teachers indicated there were places where it was necessary to intervene to maintain student interest, motivation and/or the flow of the activity. Teachers reported students needed encouragement to listen to the "Speak-Out" tapes (n = 2) and to complete the banking exercise (n = 1). One teacher reported it was necessary to maintain order when students played "Keep On Truckin'"; however, this was not the usual case.

When asked which activities they themselves liked most and least, the teachers liked "Keep On Truckin'" the most and "Speak-Out" the least. All teachers indicated they would use "Keep On Truckin'" again while 83% indicated they would use "Bank On It" and Speak-Out" as they are currently designed. One teacher felt "Bank On It" needed to be revised since it didn't hold student motivation.

TEACHER INTERVIEW

When interviewed independently, three teachers reported having encountered no problems when using the activities. Regarding specific activities, teachers felt "Keep On Truckin'" was well liked. The teachers offered the following comments and suggestions about the activities;

- an information booklet should be added about careers in trucking and banking
- "Bank On It" lasted 1½ days and was not interesting to students. Students wanted to use answer cards without solving the problems.
- "Speak-Out" was somewhat boring. Four was the maximum number of students that could listen to the tapes at one time.
- Students should be given more reasons for listening to "Speak-Out" and for understanding the intent of the activity.
- "Bank On It" and "Speak-Out" need to be revised (perhaps more game like) to increase student motivation.

OVERALL COMPLEMENTARY ACTIVITY TRENDS

Students and teachers both agreed that the "Keep On Truckin'" activity was liked most. Although general student interest was reported high for all activities reported, student interest dropped when participating in the "Speak-Out" and "Bank On It" activities. This would tend to indicate that changes are needed to increase student interest in these activities. Specific comments and recommendations are found in the earlier section of this report.

Many strengths, positive outcomes, and comments were noted by both teachers and students. In the "Keep On Truckin'" game, students became aware of the risk-taking dimension of independent businessmen; in this case, that of independent truckers. In "Bank On It", students learned of the interrelationship between math skills and the occupation of a bank teller. In "Speak-Out", students learned about how people feel about their jobs. One student commented that "the three people interviewed enjoyed their jobs which was good since they didn't seem like exciting occupations, except for the auctioneer." In addition, students were introduced to the interview technique as a means of collecting occupational information. In addition, student understanding of both themselves and the work factors also increased as a result of participating in the activities.

In conclusion, all of the activities seem to have potential for disseminating occupational information and experiences to the students. The "Bank On It" and "Speak-Out" activities should be revised with the emphasis on increasing student interest in the two activities. Other recommendations made by teachers and students which should be given consideration are contained within the specific sections of the report. The major recommendations, however, to be considered are:

1. Increase student interest in "Bank On It" and "Speak-Out".
2. The number of students listening to the Speak-Out tapes should be limited.
3. Students should be given instructions on how to operate the media equipment.

4. Include a booklet about trucking and banking occupations.
5. Reduce the number of transactions in "Bank On It"
6. The intent of the activities should be explained to the students (i.e., Why are they playing a game?)
7. The interviews (Speak-Out) should be more relevant to the occupations of the people and interests of students. Student interest might increase if the interview were completed by other students instead of adults.

OVERALL IMPLEMENTATION OF TRADE & FINANCE CLUSTER PACKAGE

TEACHER OVERALL PERCEPTIONS (Table 3.15)

Prior to implementing the Trade & Finance cluster package, teachers used the "Introduction to Occupational Exploration." Most teachers (83%) felt the Introduction was an effective starting point for the cluster package.

Prior to using the cluster package each day, most teachers (66%) reported needing a 1½ hour or less for preparation with 33% of the teachers needing an hour.

The assignment of students to the various activities was no problem (66%) to most teachers and was a problem only at the beginning of the activities for two teachers (33%). In terms of managing the activities, the class size (number of students) for the most part was too large (33%) or a little too large (50%) for teachers. The classroom size was reported to be inadequate (50%) or somewhat inadequate (33%) by most teachers. At least half of the teachers (58%) felt the sound level in the classroom was about right with only one teacher reporting it was intolerable. Some teacher assistance was reported being needed by most teachers (83%) to help students follow directions. Perhaps with improved directions in the student booklets and teacher's guide, less teacher assistance

Table 3.15 - Teacher Questionnaire Results

SECTION I: How Well Did the Entire Cluster Package Work?

Percent Responding (n = 6)

1. Excluding the Introduction, your preparation for the cluster package each day required	67% ½ hour or less	33 1 hour	___ More than 1 hour
2. As a starting point for other activities, the "Introduction to Occupational Exploration" was	___ Ineffective	17 Somewhat ineffective	83 Effective
3. The assignment of students to activities (simulation and other activities) was	___ A problem throughout the activities	33 A problem only at the beginning	67 No problem
4. Students were able to follow directions with	17 Much teacher assistance	83 Some teacher assistance	___ Little teacher assistance
5. Most of the time, the sound level in the classroom was	17 Intolerable	25 Somewhat intolerable	58 About right
6. In terms of space needed to implement the activities, my classroom was	50 Inadequate	33 Somewhat inadequate	17 Adequate
7. In terms of managing the activities, the class (the number of students) was	33 Too large	50 A little too large	17 About right

8. Circle the maximum number of major activities which you managed at one time.

1	2	3	4	5	6	7	8	NR
		50	33					17

9. Circle the maximum number of major activities which you feel you could manage successfully at one time.

1	2	3	4	5	6	7	8	NR
		50	17	17				17

10. Circle the maximum number of simulations which you feel you could manage successfully at one time.

1	2	3	4
50	33	17	

11. Fill in the number of class periods required for the simulation and other exploratory activities. ___ Simulation ___ Other Activities

12. Fill in the number of students participating in the simulation and other exploratory activities. ___ Simulation ___ Other Activities

13. Did you have any major problems using or preparing to use specific printed materials in the cluster package?

33% No
67 Yes, (Please specify) ______________________________

14. Did you have any major problems using or preparing to use specific audiovisual materials in the cluster package?

50% No

SECTION V: Overall Considerations

Which activities (Insurance . . . It's a Risky Business, Speak-Out, Keep on Truckin') in the cluster package did you Like Most and which did you Like Least?

Liked Most	Liked Least
Keep on Truckin (n = 4)	Speak Out (n = 5)
Bank on It (n = 3)	
Insurance... (n = 3)	

How would you rate the overall set of activities in terms of the students maturation level?

17 Too Difficult   7 About Right   17 Too easy

Check which materials you would and would not use again:

	Would use	Would not use
Introduction	100%	
Simulation	100*	
"Speak-Out"	83	1
"Bank on It"	100*	
"Keep on Truckin' "	100	

Overall, how successful do you think the program was in terms of:

a) Feasibility in the classroom?	b) Expanding student awareness of occupations?
___ Very Unsuccessful	___ Very Unsuccessful
17% Unsuccessful	17% Unsuccessful
17 Average	17 Average
67 Successful	50 Successful
___ Very Successful	17 Very Successful

Overall, how would you rate the instructional quality of the cluster package?

___ Very Poor   17% Poor   17 Average   50 Good   17 Very Good

In the space below, please describe any additional observations you have about the program. Included could be: interesting side effects that you have noted; problems that may have occurred; and your recommendations for improvement/change.

will be needed.

There appears to be a corresponding relationship between the maximum number of activities teachers managed at one time and the maximum number they feel they can manage successfully at one time. Half of the teachers (50%) felt that one simulation was the maximum number that they could manage successfully while 33% reported they could manage two.

When asked if there were major problems using the specific printed materials, 66% of the teachers reported yes. The problems cited occurred when starting to use the simulation and when materials were missing. One teacher suggested supplying each student with a chronological inventory list of the materials used in the simulation. Fifty percent of the teachers reported having trouble using the audio-visual materials. The main complaint concerned the faulty synchronization of the slide-tape.

Overall, most teachers felt the activities were about right in terms of student maturation level (66%). In terms of success, 66% felt the program was successful in terms of its feasibility in the classroom and successful (50%) or very successful (16%) in terms of expanding student awareness of occupations. In general, the entire cluster package was rated above average in terms of instructional quality with only one teacher rating the activities below average.

INSERVICE TRAINING

The teachers' comments and perceptions concerning the inservice training indicate that half of the teachers felt the introduction to the OEP philosophy was effective. However, most teachers felt that for introducing the details of specific materials, the in-service training was "somewhat ineffective" (50%) or "ineffective" (33%). In the interview, the teachers felt that the following additional information would have been helpful:

1. More detailed step by step instructions.
2. Specific examples of other activities students could do.
3. An in depth look at the simulation (n = 2).
4. List of jobs in the cluster area.
5. Ideas of how to summarize the simulation and tie together other ideas.
6. More detail of students' roles in the simulation.
7. Spend more time going over AV materials.

Most of the teachers (84%) felt that the teacher's guide helped them to use the materials. Most teachers initially perceived the implementation of the Trade & Finance Cluster Package as being "not difficult," or "easy." After using the materials, the teachers felt it would be easier to use the materials a second time. Only one teacher indicated it would not be difficult except for the simulation.

Most teachers (84%) felt there weren't problems arising from the concurrent use of the simulation and the exploratory activities. Comments made included: additional complementary activities are needed to balance time needed to complete the simulation; and that the simulation required more teacher supervision than the other activities.

Teachers were mixed in opinion concerning how they would integrate the cluster package into their regular classroom activities. This supports that OEP notion that the materials can be used flexibly and in many different ways. The varied ways teachers indicated they would like to use the materials were:

1. As a culminating activity for a study of occupations.
2. To conclude an insurance unit.
3. Scattered throughout the year.

4. Integrated into regular curriculum
5. As a separate unit.
6. To start the school year.
7. Earlier in the school year.
8. At the end of the school year.

When asked if there were unexpected student outcomes that they experienced as a result of using the cluster package, the teachers mentioned that: students told other students about the activities and what they learned; student-teacher interaction changed positively; it made math more relevant; and it increased student interest in general and about work situations.

One recommendation made by a teacher to improve the cluster package implementation was to include an overview or summary activity that would tie all the activities together and from which students could benefit from the experiences of others.

CLUSTER PACKAGE SUMMARY

The pilot-testing of the semi-complete Trade & Finance cluster package revealed that it is feasible to implement the OEP materials within the traditional classroom. Teachers could handle several groups of students working on different activities (i.e., simulation and complementary) without much difficulty. In addition, most teachers felt it would be easier to use the materials the next time.

Specific product revisions can help to facilitate the OEP classroom experiences. These major revisions would include improving directions (especially for the simulation) and enhancing student interest in specific complementary activities (i.e., Bank On It and Speak Out). Specific revisions and overall findings relating to the activities can be found in the Sections entitled: 1) Overall Simulation Trends and 2) Overall Complementary Trends.

IV. EVALUATION OF THE HEALTH AND WELFARE CLUSTER PACKAGE

The semi-complete cluster package for Health and Welfare included one simulation, "Touchpoint II", and three other exploratory activities, "Clean", "Well", and "Speak-Out". The materials were pilot-tested in four schools--two in Columbus, Ohio, and two in Jefferson County, Colorado - a total of 7 classrooms and approximately 150 students.

After participating in the Introduction to the program (Chapter 2), each class divided into two unequal groups - one to simulate the operations of a drug treatment center, the other to participate in the other exploratory activities. At the conclusion of the pilot-test, each group responded to questionnaires relating to the specific activities in which they had participated and the program in general. In addition, several students from each class were interviewed, and their teachers completed questionnaires and were interviewed.

Data collected from these sources will be reported and organized in terms of (1) the simulation, (2) the complementary activities, and (3) overall perceptions. It should be noted that the school populations utilized in Columbus and Jefferson County were of somewhat different socio-economic status and achievement levels. Differences between these strata have been examined and will be reported where found.

The Simulation

Description

Touchpoint II is a group simulation (9-10 participants) in which students take on the roles of staff members in a contemporary drug treatment center located in "Fremont". The simulation itself consists of a preview, a preparation section, a participation section, and a summary.

The preview is a slide-tape presentation which introduces students to Touchpoint I, Fremont's first drug treatment center, and its work environment. The storyline guides students through the center by introducing the center's objectives, the community problems, and the specific workers. The occupations introduced and included in the simulation are the director, the assistant director, medical doctor, medical technician, nurse, case worker, probation officer, psychologist and volunteer worker. The preview explains that the city council has approved the opening of Touchpoint II, a new drug treatment center in the north end of Fremont. The preview is designed to motivate students and provide them with an awareness of what their involvement will be in simulating the operation of Touchpoint II.

In the preparation phase, students read about the formation of Touchpoint II and the jobs that will be available for them to select their roles. In the handbook "Staffing Touchpoint II", they are introduced to the specific responsibilities each worker will have. An interest search is provided which students may use to help them select roles. Once roles are chosen, each participant receives a packet of materials which will be needed for that particular role. Included in each packet is an illustrated booklet containing role descriptions and responsibilities as well as rationale and step-by-step directions for completing the necessary tasks. Also, in the Director's packet is a suggested floor plan for Touchpoint II, which can be used to help students arrange their work stations.

In the participation phase of the simulation, the Director calls a staff meeting at which the staff members introduce themselves and discuss their jobs. Also at this meeting, the director assigns particular cases to appropriate staff members. These cases are in the form of case studies of individual clients of Touchpoint II. Participants then work with these "paper cases", both individually and interactively, throughout the simulation.

The "case study" of Paul Cotman illustrates the type of built-in interactions which might be representative of an actual work environment. Paul's case study discloses that he was brought to Touchpoint II by a friend, at the suggestion of police. Paul was found suffering from what would appear to be hepatitis - most likely caused by an unsanitary injection of drugs. Several interactions among staff are necessary in order to deal with this case. The nurse must fill out a medical report from the case study, and submit it to the doctor for diagnosis. The doctor gives the nurse a request for lab tests, which is passed on to the lab technician. The lab report is returned to the nurse, who adds the results to the medical record and returns it to the doctor for examination. The doctor then meets with the probation officer and psychologist to discuss the case and further action to be taken. Several other cases involve similar types of communication among various staff members.

Participants also have tasks which are to be completed individually. For example, the director must respond to letters from irate citizens as well as a letter from the father of a client. The caseworker must draw up a case study from a taped interview with a client, and the volunteer must write letters establishing contact with several referral organizations.

The simulation is concluded with a meeting of the city council. The council is deliberating continuation of support for Touchpoint II, and the participants are expected to acquaint the council members with the outcomes of the work there, in order to justify continuation of funding. The council meeting is intended, not only as a forum for discussing the work at Touchpoint II, but also as a summary for all the activities in which the participants have been involved. For a complete listing of role-specific activities, see Table 4.1.

*Note: arrows indicate activities which may extend over a period of time.

Table 4.1 Health & Welfare Simulation*
"Touchpoint II"

<table>
<tr><td>Pt 1</td><td colspan="9">PREVIEW - "TOUCHPOINT IN FREMONT"</td></tr>
<tr><td>Pt 2</td><td colspan="9">PREPARATION - BACKGROUND & ROLE SELECTION</td></tr>
<tr><td></td><td>Director</td><td>Assistant Director</td><td>Caseworker</td><td>Psychologist</td><td>Probation Officer</td><td>Medical Doctor</td><td>Nurse</td><td>Medical Technician</td><td>Volunteer</td></tr>
<tr><td>Part 3</td><td colspan="9">staff meeting -- Staff introduce themselves and describe their jobs</td></tr>
<tr><td></td><td>assigns cases</td><td></td><td>Gets Tavella case</td><td>Gets Bernstein, Cotman, and Riekhart cases</td><td>Gets Long and Cotman cases</td><td></td><td>Gets Matuski case</td><td></td><td></td></tr>
<tr><td>Part 4</td><td>Reads letters from neighborhood residents & Mr. Cotman.
Discusses neighborhood problem with Ass't Dir.
Answer letters from citizens
↓
Answers letter from Mr. Cotman
Talks with staff members
↓</td><td>Chooses referral organizations & asks volunteer to contact them
Meets with Director
↓
Fills out news release sheets
Meets with Probation Officer about Long
Meets with Psychologist about Bernstein
Talk with staff members
↓</td><td>Meets with Probation Officer and listens to Bates tape
↓
Begin case study for Bates
Meet with volunteer about Tavella case
Finish Bates case study
↓</td><td>Reads Bernstein case study
Meets with Doctor about Bernstein
Reads Cotman case study
Gives Tavella Interest Test to volunteer
Reads Reikhart case study
Ask Nurse to write for Reikhart medical records
Meet with Ass't Dir. about Bernstein
Meets with Doctor & Probation Officer about Cotman</td><td>Meets with caseworker and listens to Bates tape
↓
Writes letter to Judge about Bates
Meets with Ass't Dir.
Writes letter about Long
↓
Meets with Doctor & Psychologist about Cotman</td><td>Gets Bernstein Medical Record from Nurse
Meets with Psychologist about Bernstein
Gets Cotman record from Nurse, prescribes lab tests & gives to Nurse.
Gets Matuski case from Nurse. Diagnoses & precribes treatment.
Examines Cotman results and meets with Probation Officer & Psychologist</td><td>Gives doctor Bernstein medical record.
Constructs Cotman medical record from case study and gives to doctor.
Constructs Matuski medical record & gives to Doctor.
Sees Psychologist on Reikhart records.
Gets Cotman tests adds to medical record, and gives to Doctor
Plans Matuski diet.
Writes letter for Reikhart records.</td><td>Fills out lab report on Cotman
Looks at Blood Slides
↓
Starts Germ Cultures
↓
Gives Cotman results to Nurse.
Continue culture
↓</td><td>Meets with Assistant Director
Writes letters to referral organizations
↓
Gets Tavella test from Psychologist
Meet with Caseworker about Tavella.
Write letter to Tavella.
↓
Collect outgoing mail.</td></tr>
<tr><td>Pt 5</td><td colspan="9">SUMMARY - COUNCIL MEETING</td></tr>
</table>

Results

Seventy-one students in 7 classrooms participated in the Touchpoint II simulation. At the conclusion of the cluster package: all students responded to the questionnaire, "Your Opinions Again, Please!"; one student who participated in the simulation was selected at random from each class for an interview; and each classroom teacher completed the "Teacher Overall Perceptions - (TOP)" questionnaire and was interviewed.

Student Questionnaire Data

The questionnaire "Your Opinions Again, Please!" consisted of 45 items, the first 30 of which were general in nature, while the remaining 15 were specific to the content of the simulation. Items assessed three dimensions related to the implementation of the simulation: a) the students' interest in the materials and activities, b) the students' ability to use the materials, and c) the students' understanding of concepts and ideas presented. Both positive and negative stems were included, and items were randomly ordered within the general and specific item sets (see Instrumentation section. Chapter 1.)

A summary of the data obtained, reported by strata (Columbus or Jeffco) and grade level (7th or 8th), is presented in Table 4.2. It should be noted that sample sizes in some cells (e.g. 7th grade, Jeffco) are small, and comparisons between these cells must be interpreted with caution. It should also be mentioned that several students participated in both the simulation and several of the complementary activities, and their responses were not included in some of the data analyses that were carried out.

General Items

Student Interest (See Table 4.1)

Eight of the 30 general items concerned student interest in the simulation materials and activities. Responses to all eight items were quite positive in terms of interest in the simulation, with positive responses ranging from 55 to 93 percent of the approximately 55 students responding. Negative responses were consistently small (4 to 26 percent), with the remainder falling into the undecided category. Nearly all of the students (93%) reported that they enjoyed working with other students, and most enjoyed doing the activities and would like to try more activities like them (79 and 80 percent, respectively). It appeared that the majority of students were satisfied with the particular activities in which they were involved. While 22% of the simulators reported that they didn't like many of the things they did in the activities, 74% disagreed with that, and only 9% would rather have done the things other students were doing. Fifty-nine percent found they had interests and likes they didn't know about before (24% were undecided), and 55% wanted to continue to add things to their occupations albums. This is just slightly less than the number saying this after the Introduction. Over half of the students (56%) felt that other students their age would enjoy the simulation activities. (Thirty-seven percent were undecided on this point). (There was an apparent reluctance on the part of students throughout the pilot-tests to judge how others might feel).

Grade level differences in the general interest catagory fluctuated from item to item. While no apparent trend emerged from the data, two of the differences appear to be large and will be briefly described. Ninety-three percent of the eighth graders responded that they would not have preferred to have done the things other students were doing, while 79% of the seventh

TABLE 4.1 Simulation: General
Items dealing with INTEREST

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I enjoyed doing the exploration activities.	YES	85%	100%	88%	67%	80%	71%	76%	87%	79%
	NO	0%	0%	0%	22%	10%	18%	11%	7%	9%
	?	15%	0%	12%	11%	10%	11%	13%	7%	11%
	N	20	5	25	18	10	28	38	15	53
2. I found I had interest and likes that I didn't know about before.	YES	67%	40%	62%	56%	60%	57%	62%	53%	59%
	NO	0%	40%	8%	22%	30%	25%	10%	33%	17%
	?	33%	20%	31%	22%	10%	18%	28%	13%	24%
	N	21	5	26	18	10	28	39	15	54
3. Other students my age would enjoy these activities.	YES	67%	20%	58%	56%	50%	54%	62%	40%	56%
	NO	5%	20%	8%	11%	0%	7%	8%	7%	7%
	?	29%	60%	35%	33%	50%	39%	31%	53%	37%
	N	21	5	26	18	10	28	39	15	54
5. I want to continue to add to my own occupations album.	YES	71%	40%	65%	41%	50%	44%	58%	47%	55%
	NO	10%	20%	12%	35%	50%	41%	21%	40%	26%
	?	19%	40%	23%	24%	0%	15%	21%	13%	19%
	N	21	5	26	17	10	27	38	15	53
11. I enjoyed working with other students.	YES	100%	100%	100%	83%	90%	86%	92%	93%	93%
	NO	0%	0%	0%	11%	0%	7%	5%	0%	4%
	?	0%	0%	0%	6%	10%	7%	3%	7%	4%
	N	21	5	26	18	10	28	39	15	54
14. I didn't like many of the things I did in these activities.	YES	10%	20%	12%	39%	20%	32%	23%	20%	22%
	NO	90%	80%	88%	56%	70%	61%	74%	73%	74%
	?	0%	0%	0%	6%	10%	7%	3%	7%	4%
	N	21	5	26	18	10	28	39	15	54
16. I would like to try more activities like these.	YES	95%	80%	92%	61%	80%	68%	79%	80%	80%
	NO	5%	20%	8%	11%	20%	14%	8%	20%	11%
	?	0%	0%	0%	28%	0%	18%	13%	0%	9%
	N	21	5	26	18	10	28	39	15	54

TABLE 4.1 Simulation: General
Items dealing with INTEREST (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
20. I would rather have done the things the other students were doing.	YES	15%	0%	12%	11%	0%	7%	13%	0%	9%
	NO	75%	100%	80%	67%	90%	75%	71%	93%	77%
	?	10%	0%	8%	22%	10%	18%	16%	7%	13%
	N	20	5	25	18	10	28	38	15	53

graders reported this. At the same time, more seventh graders felt that other students their age would enjoy the simulation activities (62% vs. 40%). It should be noted that regarding the first point, the responses for both groups were quite positive, differing only by degree. Also, the sample sizes for both items were small and differences therefore reflect a shift of only a few individuals.

In terms of strata differences, the general interest items exhibited more of a pattern. On each of the eight items, the percentage of positive responses was higher for the Jeffco sample than for Columbus. Although, on several of the items, the strata differed by only a few percentage points. on others the deviation was more substantial. A larger percentage of Jeffco students reported that they enjoyed doing the exploration activities (88% vs. 71%), enjoyed working with other students (100% vs. 88%), did not dislike many of the things they did in the activities (88% vs. 61%), and would like to try more activities like them (92% vs. 68%). While observed trends could be due to inherent strata differences (achievement levels, environment, etc.) or specifically related to the simulation materials, it should be noted that this cluster package was not tested in the same Jeffco schools as were other materials, and differences could largely be due to unique classroom effects as well. In addition, the Jeffco sample size is sufficiently small that the chance inclusion of several particularly enthusiastic students could also explain the observed results.

Use of Materials (Table 4.2)

Seven of the general items dealt with student use of the simulation materials. Responses were generally quite positive. Students found the materials easy to read (83%) and reported that there was usually enough classroom space to do the activities (72%). The majority (67%) felt that it was neither too noisy to do the activities nor were there too many other students involved in activities at the same time. Sixty-five percent reported that it had not been necessary for the teacher to tell them what to do each day. However, the number of students reporting that they always knew from the directions what they were supposed to do, dropped slightly to 46%. This information may indicate that revisors need to examine directions in the simulation role booklets for clarity and provide some minor revisions or fine tuning in this area.

Grade level differences in student use of the simulation materials were apparent on several items. More eighth graders found the materials easy to read (93% vs. 79%) and reported that they always knew from the directions what they were supposed to do (60% vs. 41%). This is not surprising and probably due to grade level differences in reading achievement and comprehension. In addition, a larger number of eighth graders (80% vs. 59%) felt the Introduction (Chapter 2) was a good beginning to the simulation activities. Although more seventh graders reported understanding of the concepts of occupation and grouping in the Introduction (see Chapter 2), eighth graders may have been better able to recognize the application of those concepts in the simulation. More eighth grade students also reported that there was enough classroom space to do the activities (93% vs. 64%). This differed by only a few perecntage points. effects, and because, in general, most students reported space was adequate, probably has no real implications.

Strata differences were large on two items. More Jeffco students reported that they always knew from the directions what they were supposed to do (62% vs. 32%) and that they found the materials easy to read (92% vs. 75%). In both cases, these differences probably reflect the more basic strata differences

TABLE 4.2 Simulation: General
Items dealing with USE

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
6. The teacher had to tell us what to do each day.	YES	15%	40%	20%	28%	11%	22%	21%	21%	21%
	NO	65%	60%	64%	61%	78%	67%	63%	71%	65%
	?	20%	0%	16%	11%	11%	11%	16%	7%	13%
	N	20	5	25	18	9	27	38	14	52
7. The Introduction to Exploring Occupations was a good beginning to the things we did.	YES	57%	80%	62%	61%	80%	68%	59%	80%	65%
	NO	5%	20%	8%	28%	10%	21%	15%	13%	15%
	?	38%	0%	31%	11%	10%	11%	26%	7%	20%
	N	21	5	26	18	10	28	39	15	54
10. The materials were easy to read.	YES	90%	100%	92%	67%	90%	75%	79%	93%	83%
	NO	5%	0%	4%	17%	10%	14%	10%	7%	9%
	?	5%	0%	4%	17%	0%	11%	10%	0%	7%
	N	21	5	26	18	10	28	39	15	54
12. There were too many other students involved in the activities at the same time.	YES	19%	40%	23%	17%	10%	14%	18%	20%	19%
	NO	71%	40%	65%	61%	80%	68%	67%	67%	67%
	?	10%	20%	12%	22%	10%	18%	15%	13%	15%
	N	21	5	26	18	10	28	39	15	54
13. There was usually enough space in my classroom to do the activities.	YES	67%	100%	73%	61%	90%	71%	64%	93%	72%
	NO	19%	0%	15%	28%	10%	21%	23%	7%	19%
	?	14%	0%	12%	11%	0%	7%	13%	0%	9%
	N	21	5	26	18	10	28	39	15	54
17. I always knew from the directions what I was supposed to do.	YES	57%	80%	62%	22%	50%	32%	41%	60%	46%
	NO	29%	0%	23%	67%	20%	50%	46%	13%	37%
	?	14%	20%	15%	11%	30%	18%	13%	27%	17%
	N	21	5	26	18	10	28	39	15	54
19. It was too noisy to do many of these activities.	YES	14%	40%	19%	33%	20%	29%	23%	27%	24%
	NO	81%	40%	73%	50%	80%	61%	67%	67%	67%
	?	5%	20%	8%	17%	0%	11%	10%	7%	9%
	N	21	5	26	18	10	28	39	15	54

in achievement levels in reading and comprehension.

Understanding (Table 4.3)

Fifteen of the general items dealt with understanding. Eight items involved students' understanding of themselves and of the materials, while 7 concerned increased knowledge of the work factors. Of the 8 involving student understanding of themselves and the materials, all received positive student responses, with percentages ranging from 53 to 80 percent. The majority (77%) of students reported that they learned about occupations that they might be interested in, yet felt that they needed to think more about what they wanted to be (66%) and needed to continue exploring (65%). Many of the students learned they had skills and abilities that they didn't know about before (56%) and found they could solve problems that people actually have on their jobs (53%). Although some students felt that they didn't really learn about different occupations from the simulation activities (26%) and did not understand many of the ideas in the materials (30%), the majority disagreed (63% and 57%, respectively). The negative responses may have stemmed from certain feelings of disorientation related to the students' problems with directions or confusion regarding the roles (see student interview section). Nevertheless, only 11% reported that some of the activities were too hard to do, with disagreement on that point by some 80 percent.

Inspection of grade level and strata differences reveals that, in general, the number of negative responses which did appear on understanding items emanated primarily from the 7th grade students in Columbus. It should be noted that this is the same group that showed the highest incidence of problems involving the directions. Inherent strata and grade level differences apparently have a slight association with comprehension of both the directions and the materials

TABLE 4.3 Simulation: General
Items dealing with UNDERSTANDING

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
4. I found I could solve problems that people really have on their jobs.	YES	55%	40%	52%	50%	60%	54%	53%	53%	53%
	NO	20%	40%	24%	22%	20%	21%	21%	27%	23%
	?	25%	20%	24%	28%	20%	25%	26%	20%	25%
	N	20	5	25	19	10	28	38	15	53
8. I need to continue exploring occupations	YES	71%	60%	69%	61%	60%	61%	67%	60%	65%
	NO	14%	20%	15%	28%	30%	29%	21%	27%	22%
	?	14%	20%	15%	11%	10%	11%	13%	13%	13%
	N	21	5	26	18	10	28	39	15	54
9. I learned about occupations that I might be interested in.	YES	81%	100%	85%	72%	67%	70%	77%	79%	77%
	NO	5%	0%	4%	22%	33%	26%	13%	21%	15%
	?	14%	0%	12%	6%	0%	4%	10%	0%	8%
	N	21	5	26	18	9	27	39	14	53
15. I didn't really learn about different occupations from these activities.	YES	24%	40%	27%	33%	10%	25%	28%	20%	26%
	NO	62%	60%	62%	56%	80%	64%	59%	73%	63%
	?	14%	0%	12%	11%	10%	11%	13%	7%	11%
	N	21	5	26	18	10	28	39	15	54
18. I didn't understand many of the ideas in the materials.	YES	19%	0%	15%	50%	30%	43%	33%	20%	30%
	NO	67%	100%	73%	33%	60%	43%	51%	73%	57%
	?	14%	0%	12%	17%	10%	14%	15%	7%	13%
	N	21	5	26	18	10	28	39	15	54
21. I learned I had skills and abilities that I didn't know about before.	YES	62%	80%	65%	44%	50%	46%	54%	60%	56%
	NO	14%	0%	12%	22%	30%	25%	18%	20%	19%
	?	24%	20%	23%	33%	20%	29%	28%	20%	26%
	N	21	5	26	18	10	28	39	15	54
22. Some of the activities were too hard for me to do.	YES	19%	20%	19%	6%	0%	4%	13%	7%	11%
	NO	71%	80%	73%	78%	100%	86%	74%	93%	80%
	?	10%	0%	8%	17%	0%	11%	13%	0%	9%
	N	21	5	26	19	10	28	39	15	54

TABLE 4.3 Simulation: General
Items dealing with UNDERSTANDING (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
23. I need to think more about what I want to be.	YES	60%	60%	60%	83%	50%	71%	71%	53%	66%
	NO	25%	40%	28%	11%	40%	21%	18%	40%	25%
	?	15%	0%	12%	6%	10%	7%	11%	7%	9%
	N	20	5	25	18	10	28	38	15	53

Items dealing with Work Factors:

"Since I've tried the Occupational Exploration activities, I feel I know more about...."

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
24. Where different people work.	YES	90%	75%	88%	69%	70%	69%	81%	71%	78%
	NO	5%	0%	4%	19%	30%	23%	11%	21%	14%
	?	5%	25%	8%	13%	0%	8%	8%	7%	8%
	N	21	4	25	16	10	26	37	14	51
25. How people work together on their jobs.	YES	90%	80%	88%	75%	70%	73%	84%	73%	81%
	NO	5%	0%	4%	13%	20%	15%	8%	13%	10%
	?	5%	20%	8%	13%	10%	12%	8%	13%	10%
	N	21	5	26	16	10	26	37	15	52
26. How well people in different occupations like their work.	YES	70%	75%	71%	69%	80%	73%	69%	79%	72%
	NO	0%	0%	0%	13%	20%	15%	6%	14%	8%
	?	30%	25%	29%	19%	0%	12%	25%	7%	20%
	N	20	4	24	16	10	26	36	14	50
27. What special skills are needed for different occupations.	YES	75%	100%	80%	69%	70%	69%	72%	80%	75%
	NO	5%	0%	4%	19%	20%	19%	11%	13%	12%
	?	20%	0%	16%	13%	10%	12%	17%	7%	14%
	N	20	5	25	16	10	26	36	15	51
28. How the community benefits from the work a person does.	YES	62%	50%	60%	63%	67%	64%	62%	62%	62%
	NO	14%	25%	16%	13%	11%	12%	14%	15%	14%
	?	24%	25%	24%	25%	22%	24%	24%	23%	24%
	N	21	4	25	16	9	25	37	13	50

TABLE 4.3 Simulation: General Items dealing with UNDERSTANDING - Work Factors (Cont'd)

			JEFF CO			COLUMBUS			TOTAL	
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
29. What a person is responsible for doing in an occupation.	YES	81%	80%	81%	81%	100%	88%	81%	93%	85%
	NO	10%	20%	12%	13%	0%	8%	11%	7%	10%
	?	10%	0%	8%	6%	0%	4%	8%	0%	6%
	N	21	5	26	16	10	26	37	15	52
30. The steps people need follow to finish a job.	YES	80%	100%	83%	63%	90%	73%	72%	93%	78%
	NO	5%	0%	4%	6%	10%	8%	6%	7%	6%
	?	15%	0%	13%	31%	0%	19%	22%	0%	16%
	N	20	4	24	16	10	26	36	14	50

themselves. In addition, the possibility also exists that the confusion regarding directions may itself be associated with problems in understanding the materials.

One other grade level difference deserves mention. While 53% of the eighth graders felt they need to think more about what they want to be, 40% did not. This compares with 71% positive and only 18% negative for the seventh grade. Most probably this is due to the fact that more eighth graders feel that they have decided upon an occupation. Yet at the same time, the eighth graders apparently distinguish between thinking about what they want to be and exploring, since the percentage of eighth graders not feeling that they need to continue exploring drops to 27. It seems that while many eighth graders felt that they had made up their minds, they still felt the need to continue exploring occupations.

Concerning the items involving increased knowledge of work factors, responses were all quite positive with percentages from 62% to 85%. From having participated in the simulation, students felt they knew more about what a person is responsible for doing in an occupation (85%), how people work together on their jobs (81%), where different people work (78%), and the steps people need to follow to finish a job (78%). They also reported increased knowledge of the special skills that are needed for different occupations (75%), of how well people in different occupations like their work (72%), and how the community benefits from the work a person does (62%).

Grade level and strata differences followed no particular trends, with the direction of differences fluctuating from item to item. Even these differences mainly appeared as shifts from the undecided category and represented, in terms of raw frequencies, only a few individuals. The largest difference observed (93% vs. 72%) was between grade levels and concerned increased knowledge of the steps people need to follow to finish a job. Although this difference in positive responses was large, the difference in negative responses to this item was only one percent. Eighth graders appeared more certain of increased knowledge on this topic, while neither group reported that there was not an increase.

Specific Items

Student Interest (Table 4.4)

Six of the simulation-specific items concerned student interest in the materials and activities. As on the general questions, interest was quite high with the vast majority responding that it was fun being part of Touchpoint II (80%) and that they enjoyed their roles (83%). Many (68%) wished that the simulation had lasted longer and felt that other students their age would enjoy the activities (56%). The slide/tape was apparently effective in simulating interest, since 77% reported that after having seen it, they were interested in Touchpoint II. It is interesting to note that 30% of the students felt that the simulation would be more interesting for younger students. These responses came primarily from the lower SES strata (Columbus) and may reflect a lesser understanding of the intent of the materials by some of those students. Minor problems with understanding of the materials themselves and the directions have already been noted in this stratum and may have been associated with this observation.

Other strata differences with regard to interest tended to follow the same pattern as those observed on the general interest items. Jeffco students generally showed higher percentages of positive response than Columbus students, with differences ranging from 10 to 28%. As with the general items, while this

TABLE 4.4 Simulation: Specific Items dealing with INTEREST.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. After seeing the slide show "Touchpoint in Fremont", I was interested in Touchpoint II.	YES	86%	80%	85%	74%	71%	73%	80%	73%	77%
	NO	14%	20%	15%	17%	19%	18%	16%	19%	17%
	?	0%	0%	0%	9%	10%	9%	5%	8%	6%
	N	21	5	26	23	21	44	44	26	70
3. It was a lot of fun being part of Touchpoint II.	YES	95%	60%	89%	74%	76%	75%	84%	73%	80%
	NO	5%	20%	7%	17%	19%	18%	11%	19%	14%
	?	0%	20%	4%	9%	5%	7%	4%	8%	6%
	N	22	5	27	23	21	44	45	26	71
4. I wish Touchpoint II lasted longer.	YES	91%	60%	85%	61%	52%	57%	76%	54%	68%
	NO	9%	40%	15%	30%	29%	30%	20%	31%	24%
	?	0%	0%	0%	9%	19%	14%	4%	15%	8%
	N	22	5	27	23	21	44	45	26	71
6. Other students my age would enjoy these activities.	YES	73%	60%	70%	52%	40%	47%	62%	44%	56%
	NO	5%	20%	7%	9%	5%	7%	7%	8%	7%
	?	23%	20%	22%	39%	55%	47%	31%	48%	37%
	N	22	5	27	23	20	43	45	25	70
7. Touchpoint II would be more interesting for younger students.	YES	9%	40%	15%	43%	33%	39%	27%	35%	30%
	NO	59%	40%	56%	35%	43%	39%	47%	42%	45%
	?	32%	20%	30%	22%	24%	23%	27%	23%	25%
	N	22	5	27	23	21	44	45	26	71
14. I enjoyed the role I played in Touchpoint II.	YES	91%	80%	89%	78%	80%	79%	84%	80%	83%
	NO	5%	20%	7%	17%	15%	16%	11%	16%	13%
	?	5%	0%	4%	4%	5%	5%	4%	4%	4%
	N	22	5	27	23	20	43	45	25	70

could be due to basic strata differences (socio-economic achievement levels, etc.) or specifically related to the simulation materials, results could also be due to unique classroom effects or the chance inclusion of a few particularly enthusiastic students as well. In any case, it should not be minimized that, while these differences did appear, interest was quite positive in both strata, as evidenced by responses to both the general and simulation specific items.

Grade level differences, as on the general items, were not definitive, although the 7th grade positive responses were usually several percentage points higher. This probably is due to the low representation, in the 8th grade sample, of Jeffco students, who, as noted above, tended toward more positive ratings. It is interesting to note, however, that many more 7th graders (76% vs. 54%) wished that the Touchpoint II simulation had lasted longer and felt that others their age would enjoy the activities (62% vs. 44%).

Use of Materials (Table 4.5)

The six specific questions involving use of the simulation materials also received generally positive response. Most students reported that the interest search helped them to choose a role (70%), that all the things they did in the simulation seemed to fit together well (66%) and that they had enough information to do their work (63%). Some students (33%) reported that at times they had too much to do, and 44% indicated that there were those that they had nothing to do. Examination of these items by individual role does not appear to show particular agreement that any role contains too many or too few activities. Rather, in each case, some students felt that they were too busy or not busy enough, while other students assuming the same role in other classes were satisfied with their work loads. These responses, then, seem to be a function

TABLE 4.5 Simulation: Specific Items dealing with USE.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
2. The Interest Search helped me to choose the role I wanted	YES	73%	100%	78%	61%	71%	66%	67%	77%	70%
	NO	14%	0%	11%	35%	24%	30%	24%	19%	23%
	?	14%	0%	11%	4%	5%	5%	9%	4%	7%
	N	22	5	27	23	21	44	45	26	71
5. I had enough information to do all my work.	YES	82%	80%	81%	43%	62%	52%	62%	65%	63%
	NO	0%	20%	4%	43%	29%	36%	22%	27%	24%
	?	18%	0%	15%	13%	10%	11%	16%	8%	13%
	N	22	5	27	23	21	44	45	26	71
8. All the things we did in Touchpoint II seemed to fit well together.	YES	73%	80%	74%	57%	67%	61%	64%	69%	66%
	NO	9%	20%	11%	30%	14%	23%	20%	15%	18%
	?	18%	0%	15%	13%	19%	16%	16%	15%	15%
	N	22	5	27	23	21	44	45	26	71
10. At times, I had nothing to do.	YES	23%	60%	30%	59%	48%	53%	41%	50%	44%
	NO	68%	40%	63%	32%	43%	37%	50%	42%	47%
	?	9%	0%	7%	9%	10%	9%	9%	8%	9%
	N	22	5	27	22	21	43	44	26	70
11. At times, I had too much to do.	YES	24%	40%	27%	39%	33%	36%	32%	35%	33%
	NO	57%	60%	58%	61%	62%	61%	59%	62%	60%
	?	19%	0%	15%	0%	5%	2%	9%	4%	7%
	N	21	5	26	23	21	44	44	26	70
12. The Council Meeting provided a good ending for Touchpoint II.	YES	59%	80%	63%	61%	52%	57%	60%	58%	59%
	NO	14%	0%	11%	22%	14%	18%	18%	12%	15%
	?	27%	20%	26%	17%	33%	25%	22%	31%	25%
	N	22	5	27	23	21	44	45	26	71

of the flow of activities in each unique classroom, as opposed to an inherent imbalance of workloads in the materials. In addition, it was apparent from other sources that teachers did not understand that the "Likes List" and "Occupations Album" activities from the Introduction were intended to be continued throughout the simulation activities as time permitted. Had this been done, it might well have served to fill much of that slack time, as well as remove some of the pressure on other students to finish certain activities by a particular time.

Strata and grade level differences occurred on the specific questions with eighth grade percentages of positive response generally a few points higher than seventh grade, and Jeffco generally higher than Columbus. Large differences between strata appeared on two items. Jeffco students were much more positive about having enough information to do all their work than were Columbus students (81% vs. 52%). This may be due to the minor problems with directions discussed earlier, or simply due to better understanding or initiative on the part of the Jeffco students. Also fewer Jeffco students reported having times with nothing to do (30%, Jeffco vs. 52%, Columbus). Several things might explain this. Jeffco teachers may have better understood that certain activities from the Introduction were to be continued thoughout the cluster package. Alternatively, some activities may have taken Columbus students longer to do than expected, thereby causing lags for other students in the simulation. Because consistent problems were not apparent with any particular roles, it is probably unnecessary for the content of the roles to be dramatically revised. However, it may be possible to include suggested role-related activities in which the student could engage should he/she encounter lag times during the simulation.

Understanding (Table 4.6)

Two of the specific items concerned understanding. Both received positive responses. Sixty-five percent felt that the drawings helped them to understand the materials and that they learned a lot from their roles. Looking at the latter item across individual roles, the positive direction of response is generally constant, indicating that students in most roles felt that they learned a lot from them. One exception was the role of medical doctor, in which 3 of 7 students responding answered that they did not learn a lot from the role. This may be due to students' previous awareness of medical doctors and the nature of their work, or they may have considered the doctor's role as more active in terms of providing treatment than the diagnosis and discussion emphasis found in the simulation.

Strata differences on these two items were large with over 20% more Jeffco students responding positively. Grade level differences did not appear to be a factor.

Student Interview Results

In addition to obtaining data from the student questionnaire, one student who participated in the Touchpoint II simulation was selected at random from each of the seven classrooms for an interview. Eight of the interview questions dealt specifically with the simulation. (Compiled responses for these and other interview questions may be found in Appendix __). Because of the small sample, grade level and strata differences will generally not be examined.

Roles represented in the sample included three nurses, a director, assistant director, a doctor, and a caseworker. Only the doctor reported not liking the role, saying it was hard to understand the information and more explanation

TABLE 4.6 Simulation: Specific Items dealing with UNDERSTANDING.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
9. I learned a lot from my role.	YES	77%	80%	78%	52%	62%	57%	64%	65%	65%
	NO	14%	0%	11%	30%	24%	27%	22%	19%	21%
	?	9%	20%	11%	17%	14%	16%	13%	15%	14%
	N	22	5	27	23	21	44	45	26	71
13. The drawings helped me to understand the materials.	YES	82%	80%	81%	43%	67%	55%	62%	69%	65%
	NO	9%	0%	7%	43%	10%	32%	27%	15%	23%
	?	9%	20%	11%	13%	14%	14%	11%	15%	13%
	N	22	5	27	23	21	44	45	26	71

was needed. All others liked their roles and enjoyed helping people, solving problems, and getting a feel for what it's like to be in an occupational role. Things about the simulation they felt other students would like most included solving problems, viewing the slide/tapes, exploring and choosing jobs, and trying on a role. When asked what other students would like least about the simulation, two students liked it all and didn't know, while others felt that the unclear directions and reading and writing might be disliked.

When asked if there were special problems doing the simulation, 4 of 7 students said yes, each of them citing problems with the directions and not knowing what to do. Two students felt the simulation was not realistic - one because it was confusing and seemed unorganized, and the other because the case studies seemed far-fetched. Only two of the students reported that other activities going on in the classroom bothered them. One said that they were a little bit crowded, while another found the tape recorder noises from the complementary activity "Speak-Out" distracting at times. The remaining 5 students were not bothered by the other activities.

Suggested changes for improving the simulation included providing better explanations of the jobs, expanding the simulation to include a larger variety of jobs and more people, and including less reading material.

Several points seem apparent from the interview. First, there was some confusion regarding explanations of the individual roles and, as discussed in previous sections, some perceived difficulty with the directions. Second, students do not like to do a great deal of reading and writing in this type of activity, even though they find the materials easy to read (see questionnaire section). Nevertheless, the students found the activities interesting, enjoyed their roles, and suggested that other students would like many aspects of the simulation. In addition, 6 of 7 students reported that after participating in the simulation, they had more ideas about what they might do when they're older. When asked to describe their simulation experiences in a word, one student said "unorganized", one said "alright", while a third said "nice", and the remaining four all described it as "fun".

Teacher Questionnaire Results (Table 4.7)

At the conclusion of the semi-complete cluster package, each teacher was asked to complete a questionnaire, "Teacher Overall Perception - TOP". This instrument contained two sets of items specifically related to the simulation. The first set contained 8 questions relating to implementation and students' use of the materials, while the second set required teachers to estimate percentages of students who enjoyed/liked and understood various aspects of the simulation and materials.

Teacher responses on the first set of items were generally positive, with all but one question receiving at least 50% unqualified positive responses. The majority (4 of the 6 teachers) felt there was enough information for students to select roles, and that the students possessed adequate skills to do the simulation activities. All six teachers felt that the preview was at least somewhat effective in motivating students, while 5 of the 6 indicated that, at least to some extent, the illustrations increased student understanding of the materials, and the situations were effective in maintaining student interest.

While three of the teachers felt the materials were generally well written, two of them did not. These negative responses may have been in reference to the directions, which, in several places, were perceived to be inadequate. Five of the six teachers reported that they found it necessary to intervene to maintain student interest, motivation, and/or the flow of activities. These teachers most often recommended more specific explanations and step-by-step directions to alleviate problems. In addition, it was indicated that, in general, teachers felt that the summary was, at best, only somewhat effective in providing incentive for further exploration. The city council meeting, however, did, according to students, accomplish its intended major purpose of providing effective closure to the simulation activities.

Teacher responses in the second set of items were also generally positive. All teachers felt that the majority of their students enjoyed working with the other students, and 5 of the 6 teachers indicated that the majority enjoyed participating in Touchpoint II. Teachers also generally felt that many of their students enjoyed having a realistic problem to solve, playing occupational roles, and learning about different occupations. Four of the teachers indicated that the majority of their students liked exploring occupations, while two felt that only small percentages of their classes did. Both of these teachers, when later interviewed however, qualified these responses. One of them consistently indicated negative ratings on the questionnaire, but stated that while personally experiencing difficulty in following the flow of activities, the students had no problems figuring it out. This teacher also stated that while students at times seemed apathetic, they would overwhelmingly express the desire to continue, when asked.

Four of the six teachers also reported that large percentages of their classes understood the written materials, the vocabulary, the intent of the activities and of the entire package, and the importance of exploring occupations. Half of the teachers indicated that most students understood the directions. The other three teachers, however, reported only 50% or less generally understood directions. This corresponds with findings from both the student questionnaires and student interview. Nevertheless, only one teacher indicated that she would not use the simulation again.

Summary of Findings for the Simulation

Data from all sources tends generally to lead to positive conclusions regarding the Touchpoint II simulation. Student interest was initially quite high and appeared to generally remain so throughout the entire simulation. Students found the simulation materials and vocabulary easy to read and comprehend, and felt that the illustrations helped them to understand the materials. Understanding was also quite high, especially insofar as increased knowledge of work factors.

The slide/tape "Touchpoint in Fremont" was apparently effective in stimulating interest and motivating students, and the occupational interest survey seemed to work well in helping students to select their roles. Classroom space was generally adequate for the simulation, and the presence of other activities in the same room did not present a serious distraction to participants in the simulation activities.

Several points, however, should be taken into account by revision. Data from all sources indicated a need for more specific step-by-step directions. Students repeatedly indicated that they had difficulty understanding directions and in many places, were not certain about what to do next. In addition, teachers had no mechanism for dealing with such situations, not being totally aware of the specific interactions and responsibilities associated with each role. Revisors may wish to supply both students and teachers with some form of framework by which they could more easily comprehend the basic underlying structure of the simulation, in addition to clarifying and strengthening directions.

Feedback on individual roles in the simulation indicated that most students enjoyed the particular roles which they assumed and in general, felt that they learned a lot from them. Some students, however, did report problems with the doctor's role. They indicated that it was difficult to understand some of the information included, and many did not feel that they learned a lot from it.

In general, roles appeared to be adequately balanced in terms of workloads. For no role did there appear a consensus that there was too much or too little to do. Rather, for each role, a few students reported not enough and others reported too much work was required. It was apparent that flexibility in terms of timing is inherent to the success of the simulation. Different students will find individual activities more or less different and more or less time-consuming, depending upon their particular talents and abilities. Staff Development procedures will need to emphasize this and provide teachers with alternative approaches for dealing with lag times or similar situations which may arise.

Overall, grade level did not appear to be a significant factor in the success of the simulation. Although eighth graders found the materials somewhat easier to read and reported fewer problems with the directions, both seventh and eighth graders exhibited high interest in the simulation and generally positive reactions regarding their ability to use the materials. Understanding of the materials and concepts presented also appeared to be quite good for both groups.

A more definite trend, however, did appear with regard to the SES strata observed. Students in the Jeffco stratum appeared to be somewhat interested in the simulation and appeared to be slightly more satisfied with their participation in it. These students also seemed to have fewer problems interpreting directions and found the materials easier to read and understand. In addition, there appeared to be some interaction between the grade level and strata variables, with seventh graders in Columbus apparently finding the use of the materials somewhat more difficult than the other groups. This was especially true regarding understanding of directions, ease of reading the materials, and understanding the intent of the activities. Understanding of concepts presented was also slightly lower for this group. Revisors may wish to reinforce the intent of activities where possible, clarify or add directions, and smooth transitions, in order to better accomodate similar groups of students in the future.

It should, however, be emphasized that, although these differences did appear, they were mainly differences in the degree of positive response. Aside from the problems with directions, materials were generally easily used and understood by all groups, and teachers and students alike appeared to enjoy their experience with the simulation.

Health and Welfare Exploratory Activities

Within the Health and Welfare cluster package, three exploratory activities were pilot-tested. These activities, "Clean", "Speak-Out", and "Well", were used by students not participating in the simulation, "Touchpoint II". It was anticipated that these students would be able to complete all three activities within the duration of the pilot-test. However, in several instances, this may not have occurred.

"Clean"

Clean is an individual exploratory activity which emphasizes occupations concerned with cleanliness and custodial service. When reading the booklet, "Clean", students explore various meanings of the word clean, and relate various health and welfare occupations to that concept. The students are later involved in a decision making process by exploring a day at work with Mr. A., the school custodian. Students are asked to pinpoint on a school floor plan all the places where Mr. A. is needed. Work factors stressed in this activity are work responsibilities, work relationships, and work environment.

"Well"

Well is an exploratory activity in which students can learn, through story and decision making techniques, about three occupations in the Health and Welfare field-- a radiology technician, an inhalation therapist, and a dental laboratory technician. The story begins with Sandy, a junior high student incurring an accident while in gym class, and follows her to the hospital and through treatment and subsequent release. Students are asked to make decisions concerning Sandy's treatment and the work processes in the three occupations above.

"Well" is designed to last one class period and can be used as an individual or small group activity.

"Speak-Out"

"Speak-Out" is an exploratory activity consisting of a booklet and cassette-tape interviews with a social worker, a physical therapist, and a dietician. The students listen to these people discussing their jobs and their reactions to their work and life styles. After listening to the tapes, the students test their comprehension by answering cognitive questions covering occupational information given in the booklet and on the tapes. Other related activities are suggested to the teacher to extend student exploration-- including guidelines for students to tape their own interviews. "Speak-Out" is designed to be an individual or small group activity, depending upon how many students can comfortably listen to a cassette recorder at one time.

Results

Eighty-seven students in 7 classrooms participated in the complementary activities. At the conclusion of the cluster package, all students responded to the questionnaire "Your Opinions Again, Please!" In addition, two students who participated in the complementary activities were randomly selected from each class for interviews. Also at this point, each teacher completed the "Teacher Overall Perceptions - TOP" questionnaire and was interviewed.

Student Questionnaire Data

The questionnaire "Your Opinions Again, Please!" consisted of 50 items, the first 30 of which were general in nature, while the remaining 20 were specific to particular complementary activities. Items assessed the students' interest, use of materials, and understanding. Both positive and negative stems were included, and items were randomly ordered within the general and specific sets (see Instrumentation section, Chapter 1.)

A summary of data obtained, reported by strata (Columbus or Jeffco) and grade level (7th or 8th), is presented in Table 4.3. Again, it should be noted that sample sizes in some cells are small, and comparisons between cells should be interpreted with caution. It should also be mentioned that several students participated in both the simulation and complementary activities. These students' responses could not be included in the data for the general items, since these responses may not refer solely to the complementary activities. Their responses to the activity-specific items however, were tabulated along with those of the other students. (These additional responses on the specific items tended to stabilize sample loss resulting from the fact that not every student in the complementary activities had the opportunity to participate in all 3 activities, as was orginally anticipated.)

General Items

Student Interest (Table 4.8)

Eight of the 30 general items concerned student interest in the materials and activities. Responses to these items were generally positive, with percentages of positive response ranging from 49 to 79%. Most students enjoyed having the opportunity to work with other students (79%) and doing the exploration activities (77%). They also reported that they found interests and likes they didn't know about before (65%) and would like to try more activities like these (62%). While a few students reported that they didn't like many of the things they did in the activities (25%), the majority disagreed, and 60% re-

TABLE 4.8 Complementary Activities: General Items dealing with INTEREST

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I enjoyed doing the exploration activities.	YES	82%	75%	81%	67%	78%	71%	78%	76%	77%
	NO	5%	13%	6%	13%	22%	17%	7%	18%	10%
	?	13%	13%	13%	20%	0%	13%	15%	6%	13%
	N	39	8	47	15	9	24	54	17	71
2. I found I had interests and likes that I didn't know about before.	YES	67%	63%	66%	67%	56%	63%	67%	59%	65%
	NO	23%	38%	26%	13%	33%	21%	20%	35%	24%
	?	10%	0%	9%	20%	11%	17%	13%	6%	11%
	N	39	8	47	15	9	24	54	17	71
3. Other students my age would enjoy these activities.	YES	46%	50%	47%	47%	67%	54%	46%	59%	49%
	NO	5%	0%	4%	13%	11%	13%	7%	6%	7%
	?	49%	50%	49%	40%	22%	33%	46%	35%	44%
	N	39	8	47	15	9	24	54	17	71
5. I want to continue to add to my own occupations album.	YES	41%	50%	43%	80%	44%	67%	52%	47%	51%
	NO	31%	25%	30%	13%	44%	25%	26%	35%	28%
	?	28%	25%	28%	7%	11%	8%	22%	18%	21%
	N	39	8	47	15	9	24	54	17	71
11. I enjoyed working with other students.	YES	82%	88%	83%	67%	78%	71%	78%	82%	79%
	NO	8%	13%	9%	13%	22%	17%	9%	18%	11%
	?	10%	0%	9%	20%	0%	13%	13%	0%	10%
	N	39	8	47	15	9	24	54	17	71
14. I didn't like many of the things I did in these activities.	YES	31%	38%	32%	20%	0%	13%	28%	18%	25%
	NO	54%	50%	53%	53%	78%	63%	54%	65%	56%
	?	15%	13%	15%	27%	22%	25%	19%	18%	18%
	N	39	8	47	15	9	24	54	17	71
16. I would like to try more activities like these.	YES	62%	88%	66%	60%	44%	54%	61%	65%	62%
	NO	21%	13%	19%	27%	33%	29%	22%	24%	23%
	?	18%	0%	15%	13%	22%	17%	17%	12%	15%
	N	39	8	47	15	9	24	54	17	71

TABLE 4.8 Complementary Activities: General Items dealing with INTEREST (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
20. I would rather have done the things other students were doing.	YES	23%	0%	19%	43%	22%	35%	28%	12%	24%
	NO	56%	88%	62%	50%	67%	57%	55%	76%	60%
	?	21%	13%	19%	7%	11%	9%	17%	12%	16%
	N	39	8	47	14	9	23	53	17	70

sponded that they would not have preferred to do the things other students were doing. Fifty-one percent wanted to continue adding to their occupations album, representing a 12% decrease in positive response from the Introduction. Forty-nine percent felt that other students their age would enjoy the activities, with most of the remaining responses in the undecided category. (As is the case for this item, students throughout the pilot-tests seemed reluctant to conjecture as to how others might feel.)

Only one item exhibited strata difference. More Columbus students indicated a desire to continue adding things to their occupations album (67% vs. 43%). These percentages not only reflect a slight overall decrease in interest in the occupations album from the Introduction data, but also a shift from a grade level interest difference to a strata difference. This is probably due to unique classroom or teacher variables, or is a function of small sample sizes. In general however, grade level and strata differences with regard to general interest in the complementary activities did not appear.

Use of Materials (Table 4.9)

Items dealing with use of the materials were also rated positively by students. Most found them easy to read (85%), and felt the Introduction was a good beginning to the activities (75%). Implementation appeared not to be a problem from the students' standpoint, as they indicated that space was adequate, and neither was it too noisy, nor were there too many other students to do the activities. (This is important, since the pilot-test was conducted in classrooms of various sizes and numbers of students.) As for the directions, while 34% reported that they did not always know what they were supposed to do from the directions, 70% indicated that it was not necessary for the teacher to tell them what to do each day. Apparently, the overall instructions given

TABLE 4.9 Complementary Activities: General
Items dealing with USE

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
6. The teacher had to tell us what to do each day.	YES	18%	13%	17%	20%	22%	21%	19%	18%	18%
	NO	69%	75%	70%	73%	67%	71%	70%	71%	70%
	?	13%	13%	13%	7%	11%	8%	11%	12%	11%
	N	39	8	47	15	9	24	54	17	71
7. The Introduction to Exploring Occupations was a good beginning to the things we did.	YES	74%	88%	77%	80%	56%	71%	76%	71%	75%
	NO	15%	0%	13%	13%	22%	17%	15%	12%	14%
	?	10%	13%	11%	7%	22%	13%	9%	18%	11%
	N	39	8	47	15	9	24	54	17	71
10. The materials were easy to read.	YES	90%	100%	91%	73%	67%	71%	85%	82%	85%
	NO	3%	0%	2%	13%	11%	13%	6%	6%	6%
	?	8%	0%	6%	13%	22%	17%	9%	12%	10%
	N	39	8	47	15	9	24	54	17	71
12. There were too many other students involved in the activities at the same time.	YES	28%	0%	23%	13%	22%	17%	24%	12%	21%
	NO	62%	75%	64%	80%	67%	75%	67%	71%	68%
	?	10%	25%	13%	7%	11%	8%	9%	18%	11%
	N	39	8	47	15	9	24	54	17	71
13. There was usually enough space in my classroom to do the activities.	YES	72%	88%	74%	80%	67%	75%	74%	76%	75%
	NO	15%	13%	15%	20%	22%	21%	17%	18%	17%
	?	13%	0%	11%	0%	11%	4%	9%	6%	8%
	N	39	8	47	15	9	24	54	17	71
17. I always knew from the directions what I was supposed to do.	YES	54%	25%	49%	40%	67%	50%	50%	47%	49%
	NO	26%	50%	30%	47%	33%	42%	31%	41%	34%
	?	21%	25%	21%	13%	0%	8%	19%	12%	17%
	N	39	8	47	15	9	24	54	17	71
19. It was too noisy to do many of these activities.	YES	10%	13%	11%	40%	22%	33%	19%	18%	18%
	NO	82%	75%	81%	53%	78%	63%	74%	76%	75%
	?	8%	13%	9%	7%	0%	4%	7%	6%	7%
	N	39	8	47	15	9	24	54	17	71

students are adequate, while, in places, specific directions may be somewhat unclear.

Strata differences appeared on two items. More Columbus students reported too much noise in the classroom to do the activities (33% vs. 11%). While the vast majority in both strata did not perceive this as a problem, the fact that one extremely small classroom was used in Columbus may have resulted in the higher incidence of noise problems reported. The other strata difference appeared on perceived reading difficulty of the materials. While students in both strata found the materials easy to read, more Jeffco students responded positively (91% vs. 71%). This undoubtedly reflects differences in achievement levels between the strata.

Grade level differences in terms of use of the complementary activities did not appear.

Understanding (Table 4.10)

Fifteen general items dealt with understanding. Eight of these were concerned with student understanding of the materials and of themselves, while seven involved increased knowledge of work factors. Seven of the eight items in the first set received positive ratings from over 50% of the students. Most (80%) reported that the activities were not too hard to do and that they learned about occupations that they might be interested in (76%). While some students (about 28%) felt that they didn't understand many of the ideas in the materials and didn't really learn about occupations from the activities, the majority (54%) disagreed. Over half reported finding that they could solve problems people have on their jobs and learned that they had skills and abilities that they didn't know about before. Overall, slightly less than half of the students

TABLE 4.10 Complementary Activities: General Items dealing with UNDERSTANDING - **Work** **Factors** (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
29. What a person is responsible for doing in an occupation.	YES	90%	63%	85%	73%	50%	65%	85%	56%	79%
	NO	3%	38%	9%	20%	38%	26%	7%	38%	14%
	?	8%	0%	6%	7%	13%	9%	7%	6%	7%
	N	39	8	47	15	8	23	54	16	70
30. The steps people need to follow to finish a job.	YES	68%	50%	65%	53%	63%	57%	64%	56%	62%
	NO	11%	25%	13%	27%	38%	30%	15%	31%	19%
	?	21%	25%	22%	20%	0%	13%	21%	13%	19%
	N	38	8	46	15	8	23	53	16	69

TABLE 4.10 Complementary Activities: General
Items dealing with UNDERSTANDING (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
23. I need to think more about what I want to be.	YES	73%	57%	70%	64%	78%	70%	71%	69%	70%
	NO	16%	43%	20%	21%	11%	17%	18%	25%	19%
	?	11%	0%	9%	14%	11%	13%	12%	6%	10%
	N	37	7	44	14	9	23	51	16	67

Items dealing with Work Factors:

"Since I've tried the Occupational Exploration activities, I feel I know more about..."

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
24. Where different people work.	YES	87%	75%	85%	80%	75%	78%	85%	75%	83%
	NO	8%	13%	9%	7%	13%	9%	7%	13%	9%
	?	5%	13%	6%	13%	13%	13%	7%	13%	9%
	N	39	8	47	15	8	23	54	16	70
25. How people work together on their jobs.	YES	87%	75%	85%	80%	88%	83%	85%	81%	84%
	NO	3%	25%	6%	7%	13%	9%	4%	19%	7%
	?	10%	0%	9%	13%	0%	9%	11%	0%	9%
	N	39	8	47	15	8	23	54	16	70
26. How well people in different occupations like their work.	YES	77%	50%	72%	53%	75%	61%	70%	63%	69%
	NO	10%	50%	17%	27%	13%	22%	15%	31%	19%
	?	13%	0%	11%	20%	13%	17%	15%	6%	13%
	N	39	8	47	15	8	23	54	16	70
27. What special skills are needed for different occupations.	YES	79%	75%	79%	60%	63%	61%	74%	69%	73%
	NO	5%	13%	6%	20%	25%	22%	9%	19%	11%
	?	15%	13%	15%	20%	13%	17%	17%	13%	16%
	N	39	8	47	15	8	23	54	16	70
28. How the community benefits from the work a person does.	YES	74%	63%	72%	53%	100%	70%	68%	81%	71%
	NO	18%	25%	20%	20%	0%	13%	19%	13%	17%
	?	8%	13%	9%	27%	0%	17%	13%	6%	12%
	N	38	8	46	15	8	23	53	16	69

TABLE 4.10 Complementary Activities: General
Items dealing with UNDERSTANDING

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
4. I found I could solve problems that people really have on their jobs.	YES	59%	38%	55%	40%	44%	42%	54%	41%	51%
	NO	21%	50%	26%	20%	56%	33%	20%	53%	28%
	?	21%	13%	19%	40%	0%	25%	26%	6%	21%
	N	39	8	47	15	9	24	54	17	71
8. I need to continue exploring occupations.	YES	51%	38%	49%	47%	56%	50%	50%	47%	49%
	NO	23%	63%	30%	20%	44%	29%	22%	53%	30%
	?	26%	0%	21%	33%	0%	21%	28%	0%	21%
	N	39	8	47	15	9	24	54	17	71
9. I learned about occupations that I might be interested in.	YES	87%	38%	79%	73%	67%	71%	83%	53%	76%
	NO	10%	38%	15%	20%	22%	21%	13%	29%	17%
	?	3%	25%	6%	7%	11%	8%	4%	18%	7%
	N	39	8	47	15	9	24	54	17	71
15. I didn't really learn about different occupations from these activities.	YES	26%	38%	28%	33%	22%	29%	28%	29%	28%
	NO	59%	38%	55%	60%	56%	58%	59%	47%	56%
	?	15%	25%	17%	7%	22%	13%	13%	24%	15%
	N	39	8	47	15	9	24	54	17	71
18. I didn't understand many of the ideas in the materials.	YES	24%	25%	24%	47%	11%	33%	30%	18%	27%
	NO	58%	38%	54%	33%	89%	54%	51%	65%	54%
	?	18%	38%	22%	20%	0%	13%	19%	18%	19%
	N	38	8	46	15	9	24	53	17	70
21. I learned I had skills and abilities that I didn't know about before.	YES	49%	50%	49%	60%	44%	54%	52%	47%	51%
	NO	36%	13%	32%	20%	44%	29%	31%	29%	31%
	?	15%	38%	19%	20%	11%	17%	17%	24%	18%
	N	39	8	47	15	9	24	54	17	71
22. Some of the activities were too hard for me to do.	YES	3%	25%	6%	20%	22%	21%	7%	24%	11%
	NO	87%	75%	85%	67%	78%	71%	81%	76%	80%
	?	10%	0%	9%	13%	0%	8%	11%	0%	8%
	N	39	8	47	15	9	24	54	17	71

continue exploring. This appears in contrast to the broad majority response that they need to think more about what they want to be. It is possible that students who experienced only two or three complementary activities did not have a broad enough frame of reference to understand the concept of exploring - and how their activities related to it. Hence, while seeing the need for thinking about occupations, the need for exploring was viewed as something different.

Items concerning increased knowledge of work factors were all rated positively with percentages ranging from 62 to 84%. Students felt that, after having participated in the activities, they knew more about where people work, how they work together, and what a person is responsible for doing. They also reported knowing more about how well people in different occupations like their work, skills needed for different occupations, community benefits, and the steps people follow to finish a job.

In general, understanding appeared to be somewhat better in the seventh grade especially in increased knowledge of the work factors. While differences were not generally large, they were fairly consistent across items. This may simply indicate that eighth graders may have been slightly more knowledgeable from previous exposure to these occupations, and hence did not feel that they had learned quite as much.

Strata differences, while not showing an apparent trend, appeared on two items. More Jeffco students reported increased knowledge of skills needed and responsibilities involved in various occcupations. It should be noted, however, that, although differences occurred, responses for these items, as with all the items involving work factors, were quite positive for both strata.

Specific Items

Speak-Out (Table 4.11)

Seven of the 20 specific items concerned the complementory activity, "Speak-Out". Interest in the activity was moderate, with 56% indicating they would like to interview more people in different occupations. While a number of students (32%) felt the activity wasn't very interesting, many (43%) reported that they had never thought of talking to people about their work before. Aside from a certain lack of appeal, the activity apparently was successful in presenting many students with a new and easily accessible method of exploring.

Although some students did report having trouble with the tape recorder, the operation of the equipment may have itself been a learning experience, and the majority (67%) did not perceive the number of students trying to listen at one time as a problem. Understanding appeared to be positive, with 81% realizing that all people do not feel the same about their jobs, and the majority (54%) indicating that they now knew a lot of questions to ask someone in a job.

It would appear that while Speak-Out can be an effective device for aquainting students with one method of exploring occupations, the content of the tapes should probably be revised in order to stimulate increased student interest in the activity.

Strata differences occurred with more positive responses in Jeffco to nearly every item. Although several of the differences were quite small, others were more notable. Jeffco students appeared to have had fewer problems using the tape recorders and indicated less crowded conditions while listening to the tapes. More Jeffco students also realized that not all people feel the same about their jobs, and reported learning a lot of questions to ask someone

TABLE 4.11 Complementary Activities: Specific Items dealing with SPEAK-OUT.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I would like to interview more people in different occupations.	YES	53%	100%	59%	61%	44%	53%	56%	55%	56%
	NO	43%	0%	38%	28%	39%	33%	38%	32%	36%
	?	3%	0%	3%	11%	17%	14%	6%	14%	9%
	N	30	4	34	18	18	36	48	22	70
2. I now know a lot of questions to ask someone in a job.	YES	59%	75%	61%	39%	56%	47%	51%	59%	54%
	NO	17%	0%	15%	39%	28%	33%	26%	23%	25%
	?	24%	25%	24%	22%	17%	19%	23%	18%	22%
	N	29	4	33	18	18	36	47	22	69
3. I never thought of talking to people about their work before.	YES	41%	50%	42%	39%	50%	44%	40%	50%	43%
	NO	38%	50%	39%	44%	44%	44%	40%	45%	42%
	?	21%	0%	18%	17%	6%	11%	19%	5%	14%
	N	29	4	33	18	18	36	47	22	69
4. All people feel the same about their jobs.	YES	0%	25%	3%	28%	6%	17%	10%	9%	10%
	NO	97%	75%	94%	50%	89%	69%	79%	86%	81%
	?	3%	0%	3%	22%	6%	14%	10%	5%	9%
	N	30	4	34	18	18	36	48	22	70
5. I didn't have any trouble using the tapes and the recorder.	YES	46%	75%	50%	39%	24%	31%	43%	33%	40%
	NO	36%	25%	34%	50%	53%	51%	41%	48%	43%
	?	18%	0%	16%	11%	24%	17%	15%	19%	16%
	N	28	4	32	18	17	35	46	21	67
6. This activity wasn't very interesting.	YES	36%	0%	31%	33%	33%	33%	35%	27%	32%
	NO	50%	50%	50%	39%	33%	36%	46%	36%	43%
	?	14%	50%	19%	28%	33%	31%	20%	36%	25%
	N	28	4	32	18	18	36	46	22	68
7. There were too many students trying to listen at one time.	YES	14%	0%	12%	50%	33%	42%	28%	27%	28%
	NO	83%	75%	82%	50%	56%	53%	70%	59%	67%
	?	3%	25%	6%	0%	11%	6%	2%	14%	6%
	N	29	4	33	18	18	36	47	22	69

in a job. Differences in use most probably were due to unique classroom differences and the particular equipment used, while differences in achievement levels et cetera could explain the increased understanding in Jeffco. Items dealing with interest, however, tended to show comparatively small differences between the strata.

Grade level differences were not apparent for this activity.

Well (Table 4.12)

Six of the activity specific items concerned the booklet "Well". Responses indicated that the booklet was both easily used and understood. Students reported that the story was easy to read (78%), and that they had no trouble understanding what they were supposed to do (61%). They also indicated that the drawings helped them to understand the materials.

Interest, however, was somewhat less positive, with less than half of the students finding the story fun to read and only a few indicating that the activity was too short. A large number (48%) felt that "Well" would be more interesting for younger students. This was especially true among students in Columbus and seventh graders, who may not have understood the intent of the activity quite as well as others.

Several other strata and grade level differences were apparent. While students in both strata generally found the story easy to read and had little trouble understanding what they were supposed to do, Jeffco students were somewhat more positive on both points. Also, more eighth grade students reported that the illustrations were helpful in understanding the materials.

TABLE 4.12 Complementary Activities: Specific Items dealing with WELL.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
8. The story about Sandy was fun to read.	YES	29%	83%	41%	61%	33%	50%	44%	50%	46%
	NO	29%	17%	26%	22%	33%	27%	26%	28%	26%
	?	43%	0%	33%	17%	33%	23%	31%	22%	28%
	N	21	6	27	18	12	30	39	18	57
9. The drawings helped me to understand the materials.	YES	62%	83%	67%	63%	75%	68%	63%	78%	67%
	NO	19%	0%	15%	26%	17%	23%	22%	11%	19%
	?	19%	17%	19%	11%	8%	10%	15%	11%	14%
	N	21	6	27	19	12	31	40	18	58
10. The activity was too short.	YES	29%	33%	30%	26%	17%	23%	27%	22%	26%
	NO	57%	67%	59%	63%	58%	61%	60%	61%	60%
	?	14%	0%	11%	11%	25%	16%	13%	17%	14%
	N	21	6	27	19	12	31	40	18	58
11. The story was easy to read.	YES	95%	67%	89%	63%	75%	68%	80%	72%	78%
	NO	5%	33%	11%	21%	17%	19%	13%	22%	16%
	?	0%	0%	0%	16%	8%	13%	7%	6%	7%
	N	21	6	27	19	12	31	40	18	58
12. I had no trouble understanding what I was supposed to do.	YES	62%	100%	70%	67%	33%	53%	64%	56%	61%
	NO	33%	0%	26%	22%	33%	27%	28%	22%	26%
	?	5%	0%	4%	11%	33%	20%	8%	22%	12%
	N	21	6	27	18	12	30	39	18	57
13. "WELL" would be more interesting for younger students.	YES	38%	33%	37%	68%	42%	58%	52%	39%	48%
	NO	19%	33%	22%	11%	17%	13%	15%	22%	17%
	?	43%	33%	41%	21%	42%	29%	32%	39%	34%
	N	21	6	27	19	12	31	40	18	58

Clean (Table 4.13)

Responses to the specific items involving the complementary activity "Clean" were generally positive. Many (59%) found the story fun to read and discovered that the school custodian does a lot of things they didn't know about before (64%). However, several students (23 - 29%) said that it was sometimes difficult to follow directions and that they weren't sure what "Clean" was all about. These were primarily seventh graders in Columbus, and responses may reflect an uncertainty about where some of the cards were to be placed on the floor plan, a problem which these students later described in an interview (see interview section). Students in general, however, felt that the drawings were helpful in understanding the materials (58%, and agreed that the floor plan of the school helped them to understand all the places in the school where the custodian is needed (75%).

Other grade level and strata differences did not appear.

TABLE 4.13 **Complementary Activities: Specific Items dealing with CLEAN.**

			JEFF CO			COLUMBUS			TOTAL		
			7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
14.	The story of a day in Mr. A's life was fun to read.	YES	53%	63%	54%	74%	54%	66%	60%	57%	59%
		NO	18%	25%	20%	21%	15%	19%	19%	19%	19%
		?	29%	13%	26%	5%	31%	16%	21%	24%	22%
		N	38	8	46	19	13	32	57	21	78
15.	The school custodian does alot of things that I didn't know about before.	YES	63%	75%	65%	68%	54%	63%	65%	62%	64%
		NO	32%	25%	30%	26%	23%	25%	30%	24%	28%
		?	5%	0%	4%	5%	23%	13%	5%	14%	8%
		N	38	8	46	19	13	32	57	21	78
16.	It was sometimes difficult to follow directions.	YES	13%	25%	15%	47%	17%	35%	25%	20%	23%
		NO	82%	75%	80%	42%	83%	58%	68%	80%	71%
		?	5%	0%	4%	11%	0%	6%	7%	0%	5%
		N	38	8	46	19	12	31	57	20	77
17.	I'm not sure I understood what "CLEAN" was all about.	YES	21%	38%	24%	44%	23%	35%	29%	29%	29%
		NO	71%	50%	67%	33%	54%	42%	59%	52%	57%
		?	8%	13%	9%	22%	23%	23%	13%	19%	14%
		N	38	8	46	18	13	31	56	21	77
18.	Other students my age would like "CLEAN".	YES	42%	63%	46%	53%	62%	56%	46%	62%	50%
		NO	16%	25%	17%	16%	0%	9%	16%	10%	14%
		?	42%	13%	37%	32%	38%	34%	39%	29%	36%
		N	38	8	46	19	13	32	57	21	78
19.	The drawings in "CLEAN" helped me to understand the materials.	YES	47%	75%	52%	58%	77%	66%	51%	76%	58%
		NO	34%	13%	30%	26%	15%	22%	32%	14%	27%
		?	18%	13%	17%	16%	8%	13%	18%	10%	15%
		N	38	8	46	19	13	32	57	21	78
20.	The floor plan of the school helped me to understand all the places where the school custodian is needed.	YES	71%	75%	72%	78%	85%	81%	73%	81%	75%
		NO	18%	0%	15%	11%	15%	13%	16%	10%	14%
		?	11%	25%	13%	11%	0%	6%	11%	10%	10%
		N	38	8	46	18	13	31	56	21	77

Student Interview Results

In addition to obtaining data from the student questionnaire, students who participated in complementary activities were selected at random from each of the seven classrooms for interviews. Seven of the interview questions dealt specifically with the complementary activities. (Compiled responses for these and other interview questions may be found in Appendix). Because of the small sample, grade level and strata differences generally were not examined.

Eleven of the fourteen students interviewed participated in "Speak-Out". Most of these students liked listening to the taped interviews, and several especially enjoyed thinking up interview questions and conducting their own interviews. When asked what they liked least about the activity, students indicated that the tapes were too long, hard to understand, and at times, somewhat boring. Several students also disliked answering the questions in the booklet. Two students, however, reported that they disliked nothing about the activity.

Each of the fourteen students was able to try the activity "Clean". Eight of them especially liked placing the cards on the school floor plan. Others enjoyed reading the story and learning about Mr. A's relationships and responsibilities. Several students reported having some trouble placing the cards on the floor plan, and a few found the story boring in places. One student suggested reducing the size of the floor plan so that it could fit on a single desk and one thought the entire activity should be changed from a custodian to something else. Five of the students disliked nothing about the activity.

Ten of the fourteen students also participated in "Well". When asked what they liked most about the activity, several students indicated they enjoyed reading about Sandy and learning about occupations. One student liked the illustrations most, while another enjoyed an exercise in ordering events sequentially. Two of the ten students liked nothing about the activity. Several students indicated there was too much reading and they found the activity boring. It was also pointed out that directions were confusing to some. Students suggested that "Well" be revised to be more activity-oriented, possibly in game format. Five students, however, reported that they disliked nothing about "Well" and enjoyed the activity.

The fact that students who were interviewed were willing to point out minor problems with the activities and make suggestions for improvement should not be interpreted as a negative reaction to the materials. On the contrary, thirteen of the fourteen students reported that since participation in the activities, they were getting more ideas about what they might like to do when they're older. And when asked to describe their experiences with the activities in a word, all students responded positively. Most given responses were "interesting", "fun", and "good". Others described the program as "exciting", "educational", and "OK", while two students said they "liked it", and one simply said "it helped".

Teacher Questionnaire Results (Table 4.14)

At the conclusion of the semi-complete cluster package, each teacher was asked to complete a questionnaire, "Teacher Overall Perceptions (TOP)". This instrument contained two sets of items specifically related to the complementary activities. The first set contained 7 questions relating to implementation and appeal of the activities, while the second set required teachers to estimate percentages of students who enjoyed/like and understood various aspects of the activities.

Responses to the first set of items tended to be generally neutral. While teachers feel that, for the most part, the activities were reasonable complements to the simulation and found that students had no trouble shifting from one activity to another, ratings on other items tended to fall more toward the midpoint of the scale. Four of the six teachers felt that the activities were somewhat effective in holding students' interest, and five indicated the stories included in some of the activities were somewhat appealing to students. Four of the teachers felt that the materials were somewhat well written and that illustrations were somewhat effective in increasing student understanding; the remaining two teachers responded positively to these questions. Four of the teachers indicated there were places they found it necessary to intervene in order to maintain student interest, motivation, or the flow of activities. While one teacher found this to be continuously necessary, another found intervention necessary only at the beginning of new activities. One teacher stated that the particular classroom used was not conducive to hearing the "Speak-Out" tapes, and another experienced problems resulting from a lack of interest in "Well".

Responses on the second item set were slightly more positive. Four of

Table 4.14-Teacher Questionnaire Results

SECTION IV: Perceptions of the Other Exploratory Activities

Part A

Percent Responding

Was it easy for students to shift from one activity to another?	17% No	___ Somewhat	83% Yes
Were these other exploratory activities reasonable complements to the simulation?	17 No	33 Somewhat	50 Yes
Did these activities hold the student's interest?	17 No	67 Somewhat	17 Yes
Did the stories included in many of the activities appeal to students?	___ No	83 Somewhat	17 Yes
Did the illustrations increase student understanding of the activities?	___ No	67 Somewhat	33 Yes
Were the materials generally well written or structured?	___ No	67 Somewhat	33 Yes

Were there any places in these other exploratory activities where you found it necessary to intervene to maintain student interest, motivation and/or the flow of activities?

33 No
67 Yes, (Please specify) ______________________________

Part B

For those students participating in **"WELL," "CLEAN"** and **"SPEAK-OUT,"** check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in:				
WELL	50	17	33	___
SPEAK-OUT	17	33	17	33
CLEAN	17	17	33	33
Learning about different occupations	___	33	67	___
Working with other students	___	17	67	17
Exploring occupations	___	33	67	___
Understood:				
The directions	___	17	33	50
The written material	___	17	50	33
The vocabulary	___	17	33	50
The intent of the activities	___	33	67	___
The intent of the entire package	___	33	67	___
The importance of exploring occupations	___	33	67	___

the six teachers reported that the majority of their students enjoyed exploring and learning about different occupations, and most also felt that their students enjoyed the opportunity to work with other students. In terms of individual activities, "Clean" was judged by the teachers to be the most popular, with four of the six teachers reporting that large percentages of students enjoyed the activity. Opinions were divided with respect to "Speak-Out". While three of the teachers indicated that large percentages of their classes enjoyed the activity, the other three teachers felt that fewer than half of their students did. These differences did not appear to follow grade level or strata lines, and would appear to indicate that the success of "Speak-Out" may depend heavily on individual classroom variables. Teacher estimates regarding the activity "Well", however, were somewhat negative. Although two of the teachers indicated that over half of their students enjoyed the activity, the other four teachers disagreed-- three of them estimating that 25% or less liked it. The three activities, then, appeared to range from positive ("Clean") to somewhat negative ("Well"), in terms of teacher perceptions of student interest, with "Speak-Out" on the middle ground. This probably accounts for the rather neutral responses observed on the more general items of the first set.

Responses tended to be more positive on the items dealing with understanding. Five of the six teachers estimated that moderate to large percentages of the students understood the directions and the written material and vocabulary. Four of the teachers also reported that majorities in their classes understood the intent of the cluster package and activities, as well as the importance of exploring occupations.

Summary of Findings for Complementary Activities

Reactions to the three complementary activities tested was generally positive-- especially regarding student use and understanding of the materials. Students found the materials easy to read and most reported that space was adequate. The number of students participating in activities and the sound levels in the classrooms did not appear to pose any serious problems for implementation. Students found that the activities were not too hard to do, felt that they learned about occupations that they might be interested in, and reported greatly increased knowledge regarding work factors as they relate to various occupations. However, although most students indicated the need to continue thinking about occupations, many did not feel the need to continue exploring. It was hypothesized that students who were involved in only two or three complementary activities may not have had a broad enough frame of reference to understand the concept of exploring - and how their activities related to it. Revisors may wish to strengthen the framework under which students participating in complementary activities operate, by reinforcing within the activities, the concept of exploration and how their participation in the activities relates to that concept.

Interest in the overall set of complementary activities was fairly high on the part of students, who reportedly enjoyed doing the activities and would like to try more like them. Interest in specific activities, however, varied from quite positive to somewhat negative, as indicated by both student respones to specific questions and rather neutral teacher responses to more general interest and quality-of-materials items.

"Clean" was the most popular of the activities. Many of the students found it fun to read and enjoyed the associated activities. There was some confusion in the 7th grade in Columbus regarding just what the activity was all about and where to place some of the cards on the floor plan. Revisors may wish to clarify certain of the instructions and emphasize the intent of the activity somewhat for similar groups of students. It was also suggested that the size of the floor plan be reduced so that it might fit on an individual desk top. (This would also eliminate the need for pins in the classroom). Nevertheless, "Clean" was well accepted by students, and most teachers agreed that they would like to use this activity again in their classrooms.

While interest in "Speak-Out" was slightly less positive, the conceptual structure of the activity appeared to be quite viable. A surprising number of students reported that they had never thought of talking to people about their work before, yet after their participation in the activity, students felt they had learned many questions to ask people about their occupations. The actual content of the particular tapes, however, appeared to need a good deal of revision. Students reported that the tapes were long and oftentimes boring. They also complained about the quality of recording-- that they were difficult to hear and understand. Because there did not appear to be major problems with use or understanding of concepts, revising the content of the tapes might well bring "Speak-Out" into line as a very popular activity.

Reactions to "Well" were somewhat negative. While the activity appeared to be easily used and understood, students did not find the materials interesting. Responses seemed to indicate that the text was too far below grade level--even for the lower grade level and SES stratum. Students also found "Well" boring and suggested it be more "activity-oriented" like "Clean". Teachers also reported observing a lack of interest in the activity, and several estimated that less than 25% of the students who participated in "Well" liked it.

It would appear that extensive revision, including both structure and content, is needed for this activity.

Strata differences did not appear to play a major role in the complementary activities. Differences which did appear dealt mainly with ease of reading the materials and, to some extent, understanding of concepts, with Jeffco students slightly higher on some items. These differences, however, were not generally large and are probably inconsequential in terms of program implementation. Interest patterns across the activities were similar for both strata.

Notable grade level differences were practically non-existent for the three activities tested. Only on items regarding increased knowledge of work factors was a trend observed, in which seventh graders generally reported learning more about such things as where people work and what skills are needed for different occupations. Chances are that this is simply due to the possibility that seventh graders have less occupational knowledge initially and hence, encounter more new information than do eighth graders. Trends in grade level differences, in terms of the success of any specific activity, did not generally appear.

Overall Considerations (Table 4.15)

In addition to collecting specific data about the simulation and complementary activities, it was the purpose of the pilot-test to gather information regarding the implementation of the cluster package in general and the in-service training provided to teachers prior to the testing of the package. Three sections of the "Teacher Overall Perceptions - (TOP)" questionnaire and several of the teacher interview questions pertained to these topics.

Implementation

In terms of implementation, teachers' reactions were generally positive. Most of the teachers felt that the program was from "average" to "successful" both in terms of feasibility in the classroom and expanding student awareness of occupations. They found that the sound level in the classroom was usually about right, and that the assignment of students to activities was virtually no problem. (In some classes, students volunteered; in others they were assigned, or a combination volunteer/assignment approach was used.) All teachers, however, indicated that students needed at least some--and, at times, much--teacher assistance in order to follow directions. Several teachers also found that classroom space was inadequate for the number of students participating. Yet others indicated that space was adequate and the number of students was about right for managing the activities.

Most of the teachers reported that preparation for the cluster package reguired one half-hour or less each day, and by-and-large they experienced no problems using or preparing to use specific printed materials in the cluster package. Although several problems using audio-visual equipment were reported, they were apparently resolved successfully and were not of major concern.

Several teachers did suggest, however, that the slide/tape presentations be converted to 16 mm film. Most teachers reported no major problems arising from the concurrent use of the simulation and exploratory activities, and showed favorable reactions to the cluster package in general.

In-Service Training

Regarding the in-service training sessions, teachers found them quite helpful. They especially found them useful in terms of knowing what to expect, seeing the slide/tapes and materials ahead of time, and becoming more acquainted with general concepts of career education and occupational exploration. Teachers did feel that they needed more step-by-step instruction in the use of materials, more time to examine the materials, and more discussion of the teacher's role as "facilitator", including examples of options and techniques which can be used with the implementation of the cluster package.

All of the teachers found the Teacher's Guide to be quite helpful. They indicated that it gave good ideas and suggestions for other things to do in the classroom, and was helpful in defining outcomes and preparing the teacher to operate the audio/visual equipment. It was suggested that teachers be supplied with some sort of management system for helping students in the simulation know what to do next, and to help the teacher keep abreast of what students are doing at a particular time.

Teacher
Overall
Perceptions

Name______________________________

School_____________________________

City_______________________________

Date______________________________

DIRECTIONS: To respond, simply check (✓) the phrase that best describes your response or fill in the requested information. Space has been provided at the end of this questionnaire for you to write in any comments and suggestions you have. When you have completed this questionnaire, please return it to the individual who will be interviewing you. Thank you for your help and cooperation.

Table 4.15 Teacher Questionnaire Results

SECTION I: How Well Did the Entire Cluster Package Work?

Percent Responding (n = 6)

1.	Excluding the Introduction, your preparation for the cluster package each day required	83% ½ hour or less	17 1 hour	___ More than 1 hour
2.	As a starting point for other activities, the "Introduction to Occupational Exploration" was	___ Ineffective	50 Somewhat ineffective	50% Effective
3.	The assignment of students to activities (simulation and other activities) was	17 A problem throughout the activities	17 A problem only at the beginning	67 No problem
4.	Students were able to follow directions with	50 Much teacher assistance	50 Some teacher assistance	___ Little teacher assistance
5.	Most of the time, the sound level in the classroom was	___ Intolerable	17 Somewhat intolerable	83 About right
6.	In terms of space needed to implement the activities, my classroom was	33 Inadequate	17 Somewhat inadequate	50 Adequate
7.	In terms of managing the activities, the class (the number of students) was	17 Too large	33 A little too large	50 About right

8. Circle the maximum number of major activities which you managed at one time.

		33	67				
1	2	3	4	5	6	7	8

9. Circle the maximum number of major activities which you feel you could manage successfully at one time.

	33	17	33				
1	2	3	4	5	6	7	8

10. Circle the maximum number of simulations which you feel you could manage successfully at one time.

17	50		33
1	2	3	4

11. Fill in the number of class periods required for the simulation and other exploratory activities. 8 Simulation 5 Other Activities

12. Fill in the number of students participating in the simulation and other exploratory activities. 11 Simulation 14 Other Activities

13. Did you have any major problems using or preparing to use specific printed materials in the cluster package?

83 No
17 Yes, (Please specify) Took a lot of time previewing materials.

14. Did you have any major problems using or preparing to use specific audiovisual materials in the cluster package?

50 No
50 Yes, (Please specify) Blank tape and bulb burnt out on projector--nothing worked right--carousel would not advance

SECTION II: In-service Training

For introducing the overall nature of the Occupational Exploration Program, the in-service training was	____ Ineffective	____ Somewhat ineffective	100% Effective
For introducing the details of specific materials, the in-service training was	____ Ineffective	33% Somewhat ineffective	83 Effective
The in-service training provided me with	____ Very few ideas	50 Some ideas	50 Many ideas

SECTION V: Overall Considerations

Which activities (Touchpoint II, Clean, Well, Speak-Out, other exploratory activities) in the cluster package did you **Like Most** and which did you **Like Least**?

Liked Most	**Liked Least**
Touchpoint II (n = 4)	Well (n = 3)
Clean (n = 3)	Touchpoint (n = 1)
Speakout (n = 2)/Well (n = 2)	Speakout (n = 1)/Clean (n = 1)

How would you rate the overall set of activities in terms of the students maturation level?

17 Too Difficult 83 About Right ____ Too Easy

Check which materials you would and would not use again:

	Would use	Would not use
Introduction	83	
Simulation	50	17
"Clean"	67	17
"Speak-Out"	50	17
"Well"	33	33

Overall, how successful do you think the program was in terms of:

a) Feasibility in the classroom?		b) Expanding student awareness of occupations?	
	Very Unsuccessful		Very Unsuccessful
17	Unsuccessful		Unsuccessful
33	Average	33	Average
33	Successful	50	Successful
	Very Successful		Very Successful

Overall, how would you rate the instructional quality of the cluster package?

____ Very Poor ____ Poor 50 Average 33 Good ____ Very Good

In the space below, please describe any additional observations you have about the program. Included could be: interesting side effects that you have noted; problems that may have occurred; and your recommendations for improvement/change.

Table 4.7 Teacher Questionnaire Results

SECTION III: Perceptions of the Simulation

Part A

Percent Responding (n = 6)

Was the preview effective in motivating students?	___ No	50% Somewhat	50% Yes
Was there enough information for students to select roles?	33% No	___ Somewhat	67% Yes
Were the simulation materials generally well written?	33 No	17 Somewhat	50 Yes
Did the illustrations increase student understanding of the simulation materials?	17 No	33 Somewhat	50 Yes
Did the situations in the simulation maintain student interest?	17 No	33 Somewhat	50 Yes
Did the students possess adequate skills to do the activities?	17 No	17 Somewhat	67 Yes
Did the summary provide an incentive to explore occupations further?	33 No	50 Somewhat	17 Yes

Were there any places in the simulation where you found it necessary to intervene to maintain student interest, motivation, and/or the flow of activities?

1 No

5 Yes, (Please specify) ____________________

Part B

For those students participating in the **"TOUCHPOINT II"** simulation, check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in TOUCHPOINT II		17	33	50
Having a realistic occupational problem to solve		33	17	50
Playing different occupational roles	17	33	17	33
Learning about different occupations	17	33	33	17
Working with other students			33	67
Exploring occupations	33		33	33
Understood:				
The directions	17	33		50
The written materials	17	17	17	50
The vocabulary		33	17	50
The intent of the activities	17	17	33	33
The intent of the entire package	33		33	33
The importance of exploring occupations	17	17	33	33

Summary of Findings for the Cluster Package

Implementation of the cluster package in the classroom appeared to be, for the most part, quite successful. The cluster package concept appeared to be both feasible in the classroom and effective in terms of expanding students' occupational awareness. While initially, teachers had varying opinions on how difficult implementation of the cluster package would be, some found it to be slightly more difficult than expected. All, however, reported that using the materials a second time would not be difficult and many expressed interest in the opportunity to do so.

The simulation also appeared to be quite effective. Student interest was quite high, and findings regarding understanding and comprehension were also quite positive. There was, however, some feeling of confusion and disorientation on the part of many students due to a need for more specific step-by-step directions. In addition to adding and strengthening directions, revisors may wish to provide teachers and/or students with some sort of framework for the simulation, providing specific information regarding interactions and responsibilities associated with each role. Students in general enjoyed their roles, however, and reported learning a lot from them. While there did appear to be some difficulty in understanding some information supplied in the doctor's role booklet, other roles seemed to be well constructed, with the work required within the range of the students' ability to perform. It was apparent that some variance in the amount of time necessary for students to complete particular tasks will occur, and that teachers need to be aware of this and prepared to deal with lag times which may develop as a result.

Specific complementary activities met with varying degrees of success. "Clean" was the most popular, with students finding it fun to read and enjoying the associated activities. While some students (7th grade, Columbus) experienced some difficulty knowing where to place cards on the school floor plan and totally grasping the intent of the activity, most found it interesting and experienced few problems in use and understanding. "Speak-Out" appeared to be effective in terms of acquainting students with an easily accessible method of exploring as well as presenting many questions which students can use in their own interviews. Students, however, found the tapes themselves unnecessarily long and boring, as well as difficult to hear and understand. "Well", although easily used and understood, was perceived to be too far below grade level. Students found it boring, uninteresting, and recommended that it should be more "activity-oriented".

Overall, the set of complementary activities was successful in terms of use and implementation as well as increased knowledge of occupations and work factors. However, while students recognized the need to continue thinking about occupations after having participated in the activities, they did not report feeling the need to continue exploring. It was hypothesized that students who participated in only two or three complementary activities did not develop a broad enough frame of reference to understand the concept of exploring, and that the relationship between this concept and the students' activities may need to be emphasized in the materials.

Strata differences appeared to have an effect in the simulation, but not to any great extent in the complementary activities. In the simulation, Jeffco students seemed to show somewhat higher interest and satisfaction with their participation, as well as better use and understanding of the materials. In the complementary activities, differences were limited to ease in reading the materials, with Jeffco students slightly higher than Columbus. This did not, however, appear to result in any important differences in perception of the materials between the strata.

Grade level appeared to interact with strata in the simulation and in the activity "Clean". Seventh graders in Columbus appeared to have somewhat more difficulty understanding directions and the intent of these activities than other groups. Other trends in grade level differences did not appear in the data.

CHAPTER V: EVALUATION OF THE CONSTRUCTION CLUSTER PACKAGE

V. EVALUATION OF THE CONSTRUCTION CLUSTER PACKAGE

The complete cluster package for Construction, pilot tested in 1975, consisted of one simulation entitled "Planning Construction Projects", and five complementary activities, "Frames Go Up", "Utilities Are Important", "Workers Build Walls", "Bidding Takes Skill", and "Concrete Takes Shape." (The Construction cluster package is different from other OEP cluster packages in that, it is designed solely for use in an industrial arts classroom. Due to equipment and space requirements it is not possible for use in other classroom settings.) The materials were pilot tested in 2 schools in Jefferson County, Colorado with a total of 4 classrooms and approximately 68 students.

After participating in the Program Introduction (See Chapter 2), the students engaged in a general discussion of the construction cluster industry using posters of construction workers performing various jobs. This activity was titled "Construction Workers in Action." Then the class divided into three unequal groups, one to simulate, and the other two to explore occupations through the use of complementary activities. For the latter two groups the order of using the complementary activities was scheduled to preclude the possibility of both groups working on the same activity at the same time. Upon completion of the activities each group responded to questionnaires relating to the specific activities in which they had participated and to the program in general. Additionally, several students from each class were interviewed and their teachers completed questionnaires and were interviewed as well.

Data collected from these sources will be reported and organized in terms of (1) the simulation, (2) the complementary activities, and (3) overall perceptions.

THE SIMULATION

Description

"Planning Construction Projects" is a group simulation in which students assume the roles of workers in an architectural firm and client representatives. The basic problem situation in the simulation centers on the planning of a new junior high school athletic field to replace an existing field which has been partially destroyed by road construction. The simulation consists of four parts or phases: the preview, the preparation, the participation, and the summary.

The preview, an illustrated booklet entitled "Dilemma at the Athletic Field" introduces students to the problem situation by the use of a short skit. There are six speaking roles in the skit as well as the possibility for several other students to develop sound effects for the skit. The skit is rehearsed and then presented to the students in the class who are not using the simulation. The skit is designed to not only acquaint students with the problem but also to motivate and interest them in continuing in the simulation.

In the preparation phase ("Getting into Roles") students read the JOB DESCRIPTION POSTER that is included in the materials and then sign up for a role in the simulation. There are six unique roles described on the poster: architect (2); civil engineer (2); draftsperson (2); superintendent of schools; student body president; and community representative. The numbers beside the three architectural firm roles indicate that the students initially fill the roles in two architectural firms. These two firms compete for the job of designing the athletic field. Once the competition is over, the personnel of the winning and losing firms merge to then actually complete the plans for the field. Other unique features of the preparation phase are that it includes: Activity Flow Chart posters to help students gain an overview of the simulation activities; provisions for up to 12 students to take roles in the simulation; and descriptions of the occupations in the simulation, as they are portrayed in the simulation rather than general descriptions of the occupations.

Once the role selection process is completed, students move to the participation phase activities. The participation phase is rather complex in that many steps are required to complete the plans for the athletic field. These steps are: "Selecting an Architectural Firm"; "Writing Specs"; "Sketching Sites"; "Creating a Design"; "Arranging Sites"; "Confronting a Crisis", "Reporting on Progress"; "Making the Model"; "Drawing the Floor Plans"; and "Drawing the Site Plan." These steps will be described in the order in which they occur in the simulation.

In "Selecting an Architectural Firm" the students, according to role, divide into three groups - one to deal with the client needs and the other two representing the competing architectural firms. All students playing client roles read a single booklet and then, according to specified criteria, select the architectural firm best qualified to plan the athletic field. The students in the architectural firms choose, from presupplied drawings, examples of their firms work to be presented to the clients. The students at this point are not in role specific activities but rather are working as teams.

The next two activities are run concurrently. For "Writing Specs" the students in the architect role and those in the client roles form a team to write specifications for the planning project, based upon a list of client needs. The specific client needs were determined from a series of letters that school personnel, students, and concerned citizens have sent in (supplied in the simulation). A synchronized slide tape is also provided to help students write the specifications.

For the second activity in this set, the civil engineers and the draftspersons form a team to sketch the sites. An illustrated booklet is used by the students as a guideline for actually sketching the sites. At the end of this activity, students partially complete a site evaluation checklist. This checklist plays an important role later in the simulation.

Similar to the prior two activities, the next three activities form a set that is carried out concurrently. The two students in architect roles form a team to create a design for a building on the athletic field. The students are provided with a large sheet, posterlike in nature, which describes the steps necessary for creating a design and is highly illustrated with ideas that students could adapt for the design of the building.

As the architects work on the design of the building, the civil engineers and draftspersons work on the physical arrangements of the sites. On large sheets of paper they trace and/or paste the location of trees, buildings, tennis courts, etc. A synchronized slide tape is provided to help them with this activity. At the end of the activity they complete the evaluation checklist previously described.

The last activity in this set of three is entitled "Confronting a Crisis" and involves the students who are playing client representatives. The students see a slide tape presentation about several community problems related to the planning of the field. They then make some decisions relative to the legitimacy of the community concerns and potential cost factors. These decisions are then put into the form of press and radio/TV releases which can be used to explain the decisions to the general public.

The next activity "Reporting on Progress" requires that all the participants in the simulation meet to report on progress and to make a final decision on building and site plans. The architects present their best building designs and the client representatives then select the one that they like most. The civil engineers and draftspersons present site plans as well as the evaluation checklist for each plan and then the client representatives select the best plan. Lastly, the client representatives describe their response to the community concerns so that the final plan for the field will take into account community types of considerations. At the end of this activity the client represetnatives merge into the architectural firm to help in the construction of the site model.

Since the making of the model requires three basic types of endeavors, the activity is subdivided into three concurrent steps. Architects and model makers (formerly client representatives) develop a model of the building. Civil engineers draw a detailed site plan. Draftspersons develop detailed floor plans of the building based upon the architects drawings of the building.

For the culminating activity in the simulation students present their plans, drawings and model to "Board of Education" representatives. The "Board of Education" representatives could include other members of the class, other teachers, etc. This activity provides students with an opportunity to discuss what they've done in the simulation and to summarize their thoughts and feelings about it.

Table 1, which follows, is a complete listing of the role - specific tasks included in the simulation.

TABLE 1: ROLE SPECIFIC ACTIVITY FOR THE CONSTRUCTION SIMULATION, "PLANNING CONSTRUCTION PROJECTS"

PREVIEW - "DILEMMA AT THE ATHLETIC FIELD" - ALL PARTICIPANTS

PREPARATION - "GETTING INTO ROLES" - ALL PARTICIPANTS

ARCHITECT(S)	DRAFTSPERSON(S)	CIVIL ENGINEER(S)	SCHOOL SUPERINTENDENT	STUDENT REPRESENTATIVE	COMMUNITY REPRESENTATIVE
Read criteria for selecting an architectural firm.	Read criteria for selecting an architectural firm.	Read criteria for selecting an architectural firm.	Read "Client Needs" booklet.	Read "Client Needs" booklet.	Read "Client Needs" booklet.
Review photographs of firm's past work.	Review photographs of firm's past work.	Review photographs of firm's past work.	Review criteria for selecting an architectural firm.	Review criteria for selecting an architectural firm.	Review criteria for selecting an architectural firm.
Make presentation to clients.	Make presentation to clients.	Make presentation to clients.	Select firm.	Select firm.	Select firm.
Read memo and letters from students, parents, etc.	Read booklet for sketching sites and site descriptions.	Read booklet for sketching sites and site descriptions.	Read memo and letters from students, parents, etc.	Read memo and letters from students, parents, etc.	Read memo and letters from students, parents, etc.
View slide/tape	Sketch sites	Sketch sites	View slide/tape	View slide/tape	View slide/tape
Write specifications for the athletic field.	Complete first part of site evaluation checklist.	Complete first part of site evaluation checklist.	Write specifications for the athletic field.	Write specifications for the athletic field.	Write specifications for the athletic field.
Read over ideas/suggestions for building design.	View slide/tape, "Arranging Sites"	View slide/tape, "Arranging Sites"	View the slide/tape "A Community Crisis"	View the slide/tape "A Community Crisis"	View the slide/tape "A Community Crisis"
Sketch 3-4 buildings.	Arrange facilities on site.	Arrange facilities on site.	Decide what citizen concerns to accept, especially on the basis of cost.	Decide what citizen concerns to accept, especially on the basis of cost.	Decide what citizen concerns to accept especially on the basis of cost.
Pick best building design for presentation.	Complete evaluation checklist.	Complete evaluation checklist.	Prepare news releases justifying the decision.	Prepare news releases justifying the decisions.	Prepare news releases justifying the decisions.

IN A GROUP MEETING, ARCHITECTS SHOW AND DESCRIBE THEIR SKETCHES, CIVIL ENGINEERS AND DRAFTSPERSONS PRESENT BEST POSSIBLE SITES AND SITE ARRANGEMENTS, AND CLIENTS DESCRIBE HOW THEY WILL HANDLE COMMUNITY CONCERNS.

ARCHITECT(S)	DRAFTSPERSON(S)	CIVIL ENGINEER(S)	SCHOOL SUPERINTENDENT	STUDENT REPRESENTATIVE	COMMUNITY REPRESENTATIVE
Organize materials.	Draw detailed floor plans of the building(s).	Complete site plan for project.	Organize materials.	Organize materials.	Organize materials.
Review facilities on site.		Make elevation drawings of building(s).	Review facilities on site.	Review facilities on site.	Review facilities on site.
Make models on all facilities.			Make models of all facilities.	Make models of all facilities.	Make models of all facilities.

SUMMARY - PRESENTING FINAL PLANS
Members of the architectural firm including the client representatives present their plans to the "Board of Education."

Results - Simulation

At the conclusion of the cluster package all students responded to the questionnaire, "Your Opinions Again, Please!" One student who participated in the simulation was selected from each class (4 classes total) to be interviewed and, in addition, each classroom teacher completed the "Teacher Overall Perceptions - TOP" questionnaire and was interviewed.

Student Questionnaire Data

The questionnaire "Your Opinions Again, Please!" consisted of 45 items, the first 30 of which were general in nature, while the remaining 15 were specific to the content of the simulation. Items assessed three dimensions related to the implementation of the simulation: a) the students' interest in the materials and activities, b) the students' ability to use the materials, and c) the students' understanding of concepts and ideas presented. Both positive and negative stems were included, and items were randomly ordered within the general and specific item sets (see Instrumentation section, Chapter 1.)

A total of 32 students from the Jeffco strata participated in the simulation. Although the sample of participating students contained 7th and 8th graders, and males and females, partitioning of the questionnaire responses based upon these factors would yield data cells with relatively small N's which would be difficult to interpret. Therefore, data will be collated across grade level and sex, and interpreted accordingly. (NOTE: the reader should exercise caution in reviewing the results since a maximum of only 32 students responded to any individual question.)

General Items

Student Interest (See Table 5.1)

The response pattern to the eight items dealing with interest was somewhat mixed in nature. For example, 65% of the students reported that they enjoyed doing the exploration activities (the simulation in this instance), but, at the same time, 54% of the students responded they would rather have done the things the other students were doing. In other words, students liked the simulation but over half of them felt that the other activities would be more interesting. As will be noted later, this response pattern is supported by data collected from those students participating in the complementary activities included in the cluster package.

A similar mixed pattern is observed in items #2, #3, #5, and #16. In each case the major set of responses is positive, but there are also sizeable negative or undecided responses. While 52% of the students indicated that they discovered new interests that they didn't know about before, 36% (greater than a full third of the sample) responded negatively to the item. For item #3, the students were willing to recommend (58% positive response) the simulation for other students their own age, but 38% responded in the undivided category. And finally, student feelings about the Occupations Album and about trying more activities like the simulation (items 5 and 16) were ambivalent as indicated by the sizeable spread of responses across the positive, negative and undecided categories.

The response to the interest item dealing with perceptions of working with other student (item #11), is highly positive. Similar results have been consistently observed with this item over two years of OEP product testing.

TABLE 5.1 Simulation: General
Items dealing with INTEREST

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I enjoyed doing the exploration activities.	YES	90%	50%	65%	0%	0%	0%	90%	50%	65%
	NO	10%	19%	15%	0%	0%	0%	10%	19%	15%
	?	0%	31%	19%	0%	0%	0%	0%	31%	19%
	N	10	16	26	0	0	0	10	16	26
2. I found I had interest and likes that I didn't know about before.	YES	78%	38%	52%	0%	0%	0%	78%	38%	52%
	NO	22%	44%	36%	0%	0%	0%	22%	44%	36%
	?	0%	19%	12%	0%	0%	0%	0%	19%	12%
	N	9	16	25	0	0	0	9	16	25
3. Other students my age would enjoy these activities.	YES	70%	50%	58%	0%	0%	0%	70%	50%	58%
	NO	0%	6%	4%	0%	0%	0%	0%	6%	4%
	?	30%	44%	38%	0%	0%	0%	30%	44%	38%
	N	10	16	26	0	0	0	10	16	26
5. I want to continue to add to my own occupations album.	YES	10%	13%	12%	0%	0%	0%	10%	13%	12%
	NO	50%	44%	46%	0%	0%	0%	50%	44%	46%
	?	40%	44%	42%	0%	0%	0%	40%	44%	42%
	N	10	16	26	0	0	0	10	16	26
11. I enjoyed working with other students.	YES	80%	81%	81%	0%	0%	0%	80%	81%	81%
	NO	10%	0%	4%	0%	0%	0%	10%	0%	4%
	?	10%	19%	15%	0%	0%	0%	10%	19%	15%
	N	10	16	26	0	0	0	10	16	26
14. I didn't like many of the things I did in these activities.	YES	11%	20%	17%	0%	0%	0%	11%	20%	17%
	NO	67%	60%	63%	0%	0%	0%	67%	60%	63%
	?	22%	20%	21%	0%	0%	0%	22%	20%	21%
	N	9	15	24	0	0	0	9	15	24
16. I would like to try more activities like these.	YES	56%	47%	50%	0%	0%	0%	56%	47%	50%
	NO	22%	33%	29%	0%	0%	0%	22%	33%	29%
	?	22%	20%	21%	0%	0%	0%	22%	20%	21%
	N	9	15	24	0	0	0	9	15	24

TABLE 5.1 Simulation: General
Items dealing with INTEREST (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
20. I would rather have done the things the other students were doing.	YES	44%	60%	54%	0%	0%	0%	44%	60%	54%
	NO	56%	20%	33%	0%	0%	0%	56%	20%	33%
	?	0%	20%	13%	0%	0%	0%	0%	20%	13%
	N	9	15	24	0	0	0	9	15	24

In summarizing then across the eight interest items, student responses were generally positive but with sizeable and striking numbers of negative and/or neutral responses. Some possible interpretations of these results will be given in the summary of simulation results section of this chapter.

Use of Materials (See Table 5.2)

Seven of the general items dealt with student use of the simulation materials. With the exception of two items (#7 and #17), the response to use questions was very positive. Students could easily read the materials, could generally work their way through the materials and found their classrooms neither too noisy nor too crowded to do the simulation. A very mixed response from students indicated that the program introduction did not necessarily provide a good beginning for students as they started their participation in the simulation. One classroom in the pilot test was not able to use the program introduction, thus affecting student response to this item.

Corroborative data supporting this response has been observed elsewhere in the evaluation of OEP and summarized for use in revising the Introduction to the Program. It also appeared that students often were not certain of what they were supposed to do next. This would tend to indicate that there is a need for revisers to carefully examine specific directions in the simulation and to modify and clarify directions in order to reduce student confusion. In addition, because the simulation is somewhat complex, it may be necessary to re-examine the Activity Flow Chart with regard to overall clarity and use by students.

Understanding of the Materials (See Table 5.3)

Fifteen of the general items dealt with understanding--eight involving student understanding of themselves and of the materials and seven concerning

TABLE 5.2 Simulation: General
Items dealing with USE

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
6. The teacher had to tell us what to do each day.	YES	20%	6%	12%	0%	0%	0%	20%	6%	12%
	NO	80%	88%	85%	0%	0%	0%	80%	88%	85%
	?	0%	6%	4%	0%	0%	0%	0%	6%	4%
	N	10	16	26	0	0	0	10	16	26
7. The Introduction to Exploring Occupations was a good beginning to the things we did.	YES	56%	38%	44%	0%	0%	0%	56%	38%	44%
	NO	0%	50%	32%	0%	0%	0%	0%	50%	32%
	?	44%	13%	24%	0%	0%	0%	44%	13%	24%
	N	9	16	25	0	0	0	9	16	25
10. The materials were easy to read.	YES	60%	88%	77%	0%	0%	0%	60%	88%	77%
	NO	10%	0%	4%	0%	0%	0%	10%	0%	4%
	?	30%	13%	19%	0%	0%	0%	30%	13%	19%
	N	10	16	[illegible]	0	0	0	10	16	26
12. There were too many other students involved in the activities at the same time.	YES	11%	27%	21%	0%	0%	0%	11%	27%	21%
	NO	89%	73%	79%	0%	0%	0%	89%	73%	79%
	?	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	9	15	24	0	0	0	9	15	24
13. There was usually enough space in my classroom to do the activities.	YES	89%	87%	88%	0%	0%	0%	89%	87%	88%
	NO	0%	13%	8%	0%	0%	0%	0%	13%	8%
	?	11%	0%	4%	0%	0%	0%	11%	0%	4%
	N	9	15	24	0	0	0	9	15	24
17. I always knew from the directions what I was supposed to do.	YES	44%	40%	42%	0%	0%	0%	44%	40%	42%
	NO	22%	27%	25%	0%	0%	0%	22%	27%	25%
	?	33%	33%	33%	0%	0%	0%	33%	33%	33%
	N	9	15	24	0	0	0	9	15	24
19. It was too noisy to do many of these activities.	YES	22%	13%	17%	0%	0%	0%	22%	13%	17%
	NO	78%	73%	75%	0%	0%	0%	78%	73%	75%
	?	0%	13%	8%	0%	0%	0%	0%	13%	8%
	N	9	15	24	0	0	0	9	15	24

increased student knowledge of work factors. Of the first set of 8 items, 6 items (#4, #9, #15, #18, #22, and #23) received high positive responses (≥54%). These seem to represent personal understandings such as students' finding out that they could solve problems that people really have on their jobs and needing to think more about what they want to be. The positive response rate dropped off quite heavily for the other two items. Only a third of the students were in agreement with the statement that they need to continue exploring occupations. This may be a direct result of the moderately diminished student interest factor observed earlier, students not fully understanding the concept of exploring or may be due to the fact that students had only participated in one exploratory activity (simulation) and had no real sense of exploring. Another clue to the reason behind the lowered response may be found in the fact that only 46% of the students felt that the simulation simply helped them to learn about personal skills and abilities they didn't know of before. Students in industrial arts classes, may come to class with different learning expectations than students in other classes and hence the lower positive feeling about this aspect of learning.

The remaining 7 understanding items dealt with work factors (job responsibility, outcomes, etc.) contained within the materials. Here student response rate was quite high with many items receiving greater than 80% positive response. Only one item, that dealing with how well people like their work received a noticeably lower response rate (52% positive). A logical explanation for this occurrence is simply that this factor was not stressed as heavily as others in the materials.

Overall, the simulation did increase student understanding as measured by the student perceptions of the materials. Two of the 15 understanding questions received low responses. They dealt with the need to continue exploring occupations and growth in understanding of individual skills and abilities. Student

TABLE 5.3 Simulation: General
Items dealing with UNDERSTANDING

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
4. I found I could solve problems that people really have on their jobs.	YES	90%	69%	77%	0%	0%	0%	90%	69%	77%
	NO	0%	13%	8%	0%	0%	0%	0%	13%	8%
	?	10%	19%	15%	0%	0%	0%	10%	19%	15%
	N	10	16	26	0	0	0	10	16	26
8. I need to continue exploring occupations.	YES	40%	31%	35%	0%	0%	0%	40%	31%	35%
	NO	20%	38%	31%	0%	0%	0%	20%	38%	31%
	?	40%	31%	35%	0%	0%	0%	40%	31%	35%
	N	10	16	26	0	0	0	10	16	26
9. I learned about occupations that I might be interested in.	YES	60%	63%	62%	0%	0%	0%	60%	63%	62%
	NO	20%	25%	23%	0%	0%	0%	20%	25%	23%
	?	20%	13%	15%	0%	0%	0%	20%	13%	15%
	N	10	16	26	0	0	0	10	16	26
15. I didn't really learn about different occupations from these activities.	YES	11%	33%	25%	0%	0%	0%	11%	33%	25%
	NO	44%	60%	54%	0%	0%	0%	44%	60%	54%
	?	44%	7%	21%	0%	0%	0%	44%	7%	21%
	N	9	15	24	0	0	0	9	15	24
18. I didn't understand many of the ideas in the materials.	YES	11%	20%	17%	0%	0%	0%	11%	20%	17%
	NO	44%	67%	58%	0%	0%	0%	44%	67%	58%
	?	44%	13%	25%	0%	0%	0%	44%	13%	25%
	N	9	15	24	0	0	0	9	15	24
21. I learned I had skills and abilities that I didn't know about before.	YES	56%	40%	46%	0%	0%	0%	56%	40%	46%
	NO	22%	53%	42%	0%	0%	0%	22%	53%	42%
	?	22%	7%	13%	0%	0%	0%	22%	7%	13%
	N	9	15	24	0	0	0	9	15	24
22. Some of the activities were too hard for me to do.	YES	11%	20%	17%	0%	0%	0%	11%	20%	17%
	NO	78%	80%	79%	0%	0%	0%	78%	80%	79%
	?	11%	0%	4%	0%	0%	0%	11%	0%	4%
	N	9	15	24	0	0	0	9	15	24

TABLE 5.3 Simulation: General
Items dealing with UNDERSTANDING (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
23. I need to think more about what I want to be.	YES	89%	80%	83%	0%	0%	0%	89%	80%	83%
	NO	0%	20%	13%	0%	0%	0%	0%	20%	13%
	?	11%	0%	4%	0%	0%	0%	11%	0%	4%
	N	9	15	24	0	0	0	9	15	24

Items dealing with Work Factors:

"Since I've tried the Occupational Exploration activities, I feel I know more about..."

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
24. Where different people work.	YES	78%	69%	73%	0%	0%	0%	78%	69%	73%
	NO	0%	23%	14%	0%	0%	0%	0%	23%	14%
	?	22%	8%	14%	0%	0%	0%	22%	8%	14%
	N	9	13	22	0	0	0	9	13	22
25. How people work together on their jobs.	YES	89%	85%	86%	0%	0%	0%	89%	85%	86%
	NO	0%	15%	9%	0%	0%	0%	0%	15%	9%
	?	11%	0%	5%	0%	0%	0%	11%	0%	5%
	N	9	13	22	0	0	0	9	13	22
26. How well people in different occupations like their work.	YES	33%	64%	52%	0%	0%	0%	33%	64%	52%
	NO	22%	29%	26%	0%	0%	0%	22%	29%	26%
	?	44%	7%	22%	0%	0%	0%	44%	7%	22%
	N	9	14	23	0	0	0	9	14	23
27. What special skills are needed for different occupations.	YES	100%	92%	95%	0%	0%	0%	100%	92%	95%
	NO	0%	0%	0%	0%	0%	0%	0%	0%	0%
	?	0%	8%	5%	0%	0%	0%	0%	8%	5%
	N	9	13	22	0	0	0	9	13	22
28. How the community benefits from the work a person does.	YES	89%	77%	82%	0%	0%	0%	89%	77%	82%
	NO	11%	8%	9%	0%	0%	0%	11%	8%	9%
	?	0%	15%	9%	0%	0%	0%	0%	15%	9%
	N	9	13	22	0	0	0	9	13	22

TABLE 5.3 Simulation: General Items dealing with UNDERSTANDING Work Factors (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
29. What a person is responsible for doing in an occupation.	YES	89%	77%	82%	0%	0%	0%	89%	77%	82%
	NO	0%	15%	9%	0%	0%	0%	0%	15%	9%
	?	11%	8%	9%	0%	0%	0%	11%	8%	9%
	N	9	13	22	0	0	0	9	13	22
30. The steps people need to follow to finish a job.	YES	89%	85%	86%	0%	0%	0%	89%	85%	86%
	NO	0%	8%	5%	0%	0%	0%	0%	8%	5%
	?	11%	8%	9%	0%	0%	0%	11%	8%	9%
	N	9	13	22	0	0	0	9	13	22

responsiveness to these items could be enhanced by providing more insights and methods for the teacher to facilitate student involvement in the simulation. This could be accomplished through in-service training and some modification of the teacher's handbook.

SPECIFIC ITEMS

Student Interest (See Table 5.4)

Six of the simulation-specific items dealt with interest in the materials. Only one of the six items, that covering enjoyment of playing a specific role (item #14) received a strongly positive response (65%). The pattern for the other five items is consistently mixed in nature--a result which is in direct agreement with the results of the general items. While the numerical majority of the students felt that they were interested in the simulation after reading the introductory booklet "Dilemma at the Athletic Field", 47% of the students answered negatively or undecided, i.e. the booklet and "skit" activity were not motivating a sizeable proportion of the sample. This pattern of widely spread responses is again repeated for statements such as: "It was a lot of fun being part of a planning team"; "I wish Planning Construction Projects lasted longer"; "Other students my age would enjoy these activities"; and "Planning Construction Projects would be more interesting for younger students." Collectively the responses to these items indicate a slightly positive to neutral acceptance of or interest in the simulation.

One particular item in this set needs to be discussed further. Item #6, "Other students my age would enjoy these activities," received a positive response of only 41% when included in the simulation specific questions as compared to a positive response rate of 58% when it was in the general set of questions. This may lead one to question the reliability of the instrument, although data collected elsewhere in the pilot testing of OEP materials in FY '75' would tend

TABLE 5.4 Simulation: Specific Items dealing with INTEREST.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. After reading about the "Dilemma at the Athletic Field", I was interested in "Planning Construction Projects".	YES	36%	62%	53%	0%	0%	0%	36%	62%	53%
	NO	18%	19%	19%	0%	0%	0%	18%	19%	19%
	?	45%	19%	28%	0%	0%	0%	45%	19%	28%
	N	11	21	32	0	0	0	11	21	32
3. It was a lot of fun being part of a planning team.	YES	82%	38%	53%	0%	0%	0%	82%	38%	53%
	NO	9%	29%	22%	0%	0%	0%	9%	29%	22%
	?	9%	33%	25%	0%	0%	0%	9%	33%	25%
	N	11	21	32	0	0	0	11	21	32
4. I wish "Planning Construction Projects" lasted longer.	YES	36%	33%	34%	0%	0%	0%	36%	33%	34%
	NO	27%	57%	47%	0%	0%	0%	27%	57%	47%
	?	36%	10%	19%	0%	0%	0%	36%	10%	19%
	N	11	21	32	0	0	0	11	21	32
6. Other students my age would enjoy these activities.	YES	55%	33%	41%	0%	0%	0%	55%	33%	41%
	NO	0%	33%	22%	0%	0%	0%	0%	33%	22%
	?	45%	33%	38%	0%	0%	0%	45%	33%	38%
	N	11	21	32	0	0	0	11	21	32
7. "Planning Construction Projects" would be more interesting for younger students.	YES	18%	43%	34%	0%	0%	0%	18%	43%	34%
	NO	55%	43%	47%	0%	0%	0%	55%	43%	47%
	?	27%	14%	19%	0%	0%	0%	27%	14%	19%
	N	11	21	32	0	0	0	11	21	32
14. I enjoyed the role I played in "Planning Construction Projects".	YES	60%	67%	65%	0%	0%	0%	60%	67%	65%
	NO	10%	19%	16%	0%	0%	0%	10%	19%	16%
	?	30%	14%	19%	0%	0%	0%	30%	14%	19%
	N	10	21	31	0	0	0	10	21	31

to indicate that the instruments were fairly reliable. Another explanation that may account for this result is given below. Students, when responding to the general questions, may have seen this item differently then when it related only to the simulation. In the former instance because of the wording of the question they may have tended to generalize their opinions more across the entire set of activities they observed in the classroom. In the latter situation, their feelings were probably more directed toward the simulation itself. This is emphasized by their response to another question contained in the simulation specific set. Not only were they less positive about item #6, but additionally 53% of the students were either undecided or responded positively to the statement that the simulation would be more interesting for younger students. It is possible that the two questions together initiated a somewhat different and more negative perspective for responding than was observed in the general set of questions.

While it is difficult to specify exact reasons for the generally positive but moderate interest level of the students in the simulation, two possibilities are suggested: 1) the materials- and especially the simulation preview- were not of sufficient quality to motivate and interest a sizeable number of students; and 2) some of the materials may have appeared to be for students younger than those involved in the simulation.

STUDENT USE OF THE MATERIALS (See Table 5.5)

The six items, constituting the use dimension, showed a mixed pattern of response when examined in detail. The three items dealing with the process of getting into roles, having enough information to do one's work and the degree to which parts of the simulation fit together, all received positive to highly positive responses (i.e., 59% - 78%). The response pattern shifted considerably when students responded to questions dealing with the summary to the simulation and such concerns as "At times, I had nothing (too much) to do."

Slightly more than half of the students in the simulation (52%) responded that the summary was a good ending for the simulation, with most of the rest of the students (42%) responding in the undecided category. This may indicate the need to carefully examine the summary and modify it accordingly, or it may simply be a result of one of the classes not having sufficient time to complete the model building activity. Since unveiling of the models is an integral aspect of the summary, positive student perceptions of the summary may have been reduced if students did not have a chance to complete their models.

With regard to having too much or too little to do, the information collected by role is extremely valuable for understanding problems that may have occurred in the simulation. Seven of the eight students in the architect's role reported having too much to do at times and at other times too little to do. Many of the students who played the roles of draftsman, civil engineer also reported they had too much to do. From the standpoint of logistics (e.g., evenly balanced roles, smoothly flowing activities) it appears that the simulation did not function well.

These results, in conjunction with the data obtained for the interest questions, indicate that the simulation may require a sizeable amount of reconceptualization and reconfiguration. And given the time problems observed

TABLE 5.5 Simulation: Specific Items dealing with USE.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
?. The Job Description Poster helped me choose the role I wanted.	YES	55%	62%	59%	0%	0%	0%	55%	62%	59%
	NO	0%	29%	19%	0%	0%	0%	0%	29%	19%
	?	45%	10%	22%	0%	0%	0%	45%	10%	22%
	N	11	21	32	0	0	0	11	21	32
5. I had enough information to do all my work.	YES	64%	86%	78%	0%	0%	0%	64%	86%	78%
	NO	0%	0%	0%	0%	0%	0%	0%	0%	0%
	?	36%	14%	22%	0%	0%	0%	36%	14%	22%
	N	11	21	32	0	0	0	11	21	32
8. All the things we did seemed to fit together well.	YES	64%	71%	69%	0%	0%	0%	64%	71%	69%
	NO	0%	10%	6%	0%	0%	0%	0%	10%	6%
	?	36%	19%	25%	0%	0%	0%	36%	19%	25%
	N	11	21	32	0	0	0	11	21	32
10. At times, I had nothing to do.	YES	50%	52%	52%	0%	0%	0%	50%	52%	52%
	NO	20%	43%	35%	0%	0%	0%	20%	43%	35%
	?	30%	5%	13%	0%	0%	0%	30%	5%	13%
	N	10	21	31	0	0	0	10	21	31
11. At times, I had too much to do.	YES	80%	60%	67%	0%	0%	0%	80%	60%	67%
	NO	20%	20%	20%	0%	0%	0%	20%	20%	20%
	?	0%	20%	13%	0%	0%	0%	0%	20%	13%
	N	10	20	30	0	0	0	10	20	30
12. The last meeting with the Board of Education was a good ending for "Planning Construction Projects".	YES	50%	52%	52%	0%	0%	0%	50%	52%	52%
	NO	0%	10%	6%	0%	0%	0%	0%	10%	6%
	?	50%	38%	42%	0%	0%	0%	50%	38%	42%
	N	10	21	31	0	0	0	10	21	31

above, it might be wise to conduct a very carefully scrutinized retest of the simulation to determine the specific activities in each role which need to be reduced or augmented.

STUDENT UNDERSTANDING OF THE MATERIALS (See Table 5.6)

Two questions in the specific section of the questionnaire related to understanding of the simulation materials. Student responses to these questions were positive. Fifty three percent of the students indicated that they learned a lot from their role. (item #9). While the overall response category was positive, it is important to note that 25% of the students responded negatively to the item and 22% were undecided. The fact that individual roles may need to be modified is indicated by this data, although examination of response patterns by role, does not reveal which specific ones should be improved.

The responses to the second understanding question (item #13) showed that most students (68%) felt that the drawings in the simulation were useful for understanding the simulation materials.

STUDENT INTERVIEW RESULTS (Simulation)

Four (4) students who participated in the simulation were interviewed. The range of roles played by these students is limited to the student body president (three students) and the civil engineer (one student). All four students reported liking their roles and gave a variety of reasons supporting their perceptions.

When asked to describe, what other students would like least and like most about the simulation, the students cited many positive and negative features of the simulation. Since the total number of students interviewed (and range of roles represented) is quite small no particular consensus will be drawn for specific open ended questions. Rather the interviewee responses across the questions will be summarized and the major commonalities in those responses will be described.

TABLE 5.6 Simulation: Specific Items dealing with UNDERSTANDING.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
9. I learned a lot from my role.	YES	55%	52%	53%	0%	0%	0%	55%	52%	53%
	NO	9%	33%	25%	0%	0%	0%	9%	33%	25%
	?	36%	14%	22%	0%	0%	0%	36%	14%	22%
	N	11	21	32	0	0	0	11	21	32
13. The drawings helped me to understand the materials.	YES	60%	71%	68%	0%	0%	0%	60%	71%	68%
	NO	0%	19%	13%	0%	0%	0%	0%	19%	13%
	?	40%	10%	19%	0%	0%	0%	40%	10%	19%
	N	10	21	31	0	0	0	10	21	31

In general, student comments about the simulation were favorable. Major problems seem to have been encountered, however, when working through the simulation. Students frequently mentioned not having enough specific detailed, step by step directions for completing tasks. They needed more time to complete the simulation. They often referred to the need for better organization in the simulation, for having defined and responsible leadership in the simulation, and for having a clearer understanding of the responsibilities involved in different occupations represented in the simulation.

Positive comments were focussed on the ability to participate in and actually make decisions and the construction of models. Judging from these results, it would seem that the basic premise and structure of the simulation are both feasible for classroom use and potentially motivating to students. But the potential probably was not realized due to some of the difficulties that occurred during the use of the simulation materials.

TEACHER QUESTIONNAIRE RESULTS (see table 5.7)

Section III of The Teacher Overall Perceptions (TOP), "Perceptions of the Simulation, revealed that the two teachers who responded had both positive and mixed feelings concerning various components of the simulation. They felt the simulation was generally well written, the illustrations increased student understanding of the simulation materials, and the students possessed adequate skills to do the activities. The teachers were mixed in opinion concerning the effectiveness of the preview, the amount of adequate information in the handbooks for students to select roles, the ability of the situations in simulation to maintain student interest, and the effectiveness of the summary. Both teachers felt it was necessary to intervene to maintain student interest, motivation and/or the flow of the activities.

In general, the teachers felt student enjoyment in doing the simulation was greater than their understanding. Both teachers indicated the majority of

Table 5.7. TEACHER QUESTIONNAIRE RESULTS

SECTION III: Perceptions of the Simulation

Part A

Was the preview effective in motivating students?	___ No	1 Somewhat	1 Yes
Was there enough information for students to select roles?	___ No	1 Somewhat	1 Yes
Were the simulation materials generally well written?	___ No	___ Somewhat	2 Yes
Did the illustrations increase student understanding of the simulation materials?	___ No	___ Somewhat	2 Yes
Did the situations in the simulation maintain student interest?	___ No	1 Somewhat	1 Yes
Did the students possess adequate skills to do the activities?	___ No	___ Somewhat	2 Yes
Did the summary provide an incentive to explore occupations further?	___ No	1 Somewhat	___ Yes

Were there any places in the simulation where you found it necessary to intervene to maintain student interest, motivation, and/or the flow of activities?

☐ No

☒ Yes, (Please specify) Yes, the last day of school; yes, when they were drawing site plans.

Part B

For those students participating in "**PLANNING CONSTRUCTION PROJECTS,**" check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in "PLANNING CONSTRUCTION PROJECTS"			1	1
Having a realistic occupational problem to solve		1		1
Playing different occupational roles			2	
Learning about different occupations			2	
Working with other students			2	
Exploring occupations			1	1
Understood:				
The directions		2		
The written materials			2	
The vocabulary		1	1	
The intent of the activities		1	1	
The intent of the entire package		1		1
The importance of exploring occupations			2	

students enjoyed participating in "Planning Construction Projects," playing different occupational roles, learning about different occupations, working with other students, and exploring occupations. They felt the majority understood the written materials and the importance of exploring occupations. The teachers felt that less than half of the students understood the directions (a result which has been verified by data collected from students.) The teachers were divided in opinion concerning student understanding of the vocabulary, and the intent of the activities in the cluster package. Both teachers indicated they would use the simulations again.

TEACHER INTERVIEW REUSLTS (Simulation)

Teachers were asked about special problems they may have encountered when using the simulation. One teacher felt it was hard to keep up with what students were doing especially when the students subdivided into various groups. Both teachers felt they needed more time to use the materials; one indicated that the model building had to be left out. When asked for suggestions on how to improve the simulation, the teachers were not, however, able to provide specific recommendations.

SUMMARY OF SIMULATION FINDINGS AND RECOMMENDATIONS

As the reader reviews this summary of simulation findings it is important to again note that only a small number of students and teachers actually worked with the simulation. And further, the structure of the total cluster package made testing of the simulation feasible only within one classroom setting - the industrial arts classroom. Because of the above factors it is suggested that the reader exercise an extra measure of care in interpreting and using the findings.

FINDINGS AND RECOMMENDATIONS

Data from all student and teacher sources tends to converge on the same findings regarding student interest in the simulation. First, students were only moderately interested in the simulation. This is evident in student questionnaire data where although the majority of responses were positive, there were sizeable and consistent negative and undecided responses. Student interview results were more positive than the questionnaires and tend to indicate that problems in using the materials may have reduced their effectiveness in simulating and maintaining student interest. Secondly, the motivational value of the simulation preview is perhaps, not as high as would be desirable. Lowered levels of initial student interest or curiosity may have been a factor in the overall success of the simulation. Lastly, there were many aspects of the simulation - enjoyment of individual roles, the ability to be involved in the decision making process, and model building - that students commented on quite favorably.

As implied above and as described in earlier sections of this report there were major difficulties in using the simulation. Of prime concern, across all data sources, were: the clarity of directions; the lack of directions at certain points; the activity imbalance of some roles (i.e., the architect, the civil engineer, and the draftsperson); and the fact that the summary did not seem to serve as an adequate culminating activity. Undoubtedly, reduction of use problems, would improve student interest in the simulation.

This is underscored by the data collected regarding student understanding of the simulation. Most students felt that they had learned the work factors contained in the simulation. While there were some exceptions to this result, (many students did not learn about personal abilities and skills that they didn't know about before) it does tend to summarize a generally observed perception of this simulation, namely, that it has high potential for success but that it must be modified and improved.

Therefore, based upon the major findings in the areas of interest, use and understanding the following suggestions for revision are made:

1. Revise the preview to the simulation so that it is more motivational and appealing to students in the target age group.
2. Examine and where necessary, clarify all existing directions.
3. Add directions and/or specifications for all production steps in the simulation.
4. Revise the summary to make it a more effective means of culminating the simulation.
5. Re-examine the activities in each role, expecially those of the architect, and civil engineer and draftsperson, with regard to amount of activity and content of each activity. Clarify the responsibilities of each role and the interactions between roles.
6. Re-examine the methods presently used for giving students an overview of the simulation. If possible consider revising it with regard to overall student understanding of the organization of the simulation.

CONSTRUCTION EXPLORATORY ACTIVITIES

Within the Construction cluster package, five activities in addition to the simulation, were pilot tested. These activities - FRAMES GO UP, UTILITIES ARE IMPORTANT, WORKERS BUILD WALLS, BIDDING TAKES SKILL and CONCRETE TAKES SHAPE - were used by students not participating in the simulation. In general, it was anticipated that students would complete all five activities in the pilot test time period, approximately 17-20 periods. However, in some instances this may not have occurred. The five activities are briefly described below. (The reader should note that many helpful ideas for reinforcing concepts and for broadening the student's awareness of occupations are included in the teacher's guide that accompanied the Construction cluster package.)

"FRAMES GO UP"

In this group activity students build a "48 x 48" wall frame. The frame is constructed on a wooden structure, "the basic building frame", which is assembled beforehand by the classroom teacher. Students use the wall frame from this activity for later activities such as "WORKERS BUILD WALLS" and "UTILITIES ARE IMPORTANT."

After the students complete the wall frame, they play the "Frame Game". The game is designed to help them see the occupations that are associated with a variety of frames such as window frames, car frames, picture frames, etc. This is accomplished by having students name/identify occupations that might have been involved in the development or use of a particular frame.

"UTILITIES ARE IMPORTANT"

Students working as a group install a vent and drain pipe in the wall frame they constructed earlier. After the installation is complete the students fill out a worksheet entitled, "Who Does It?" This latter activity helps students to learn of the various occupations related to the generation, use, and maintenance of utilities.

"WORKERS BUILD WALLS"

"WORKERS BUILD WALLS" is a group activity in which students attach drywall to a wood frame and then complete a worksheet entitled, "Workers Build Walls." On the worksheet students are given a list of materials used in building and finishing walls and then asked to supply names and duties of workers who use the materials. If the student is unfamiliar with a specific step involved in finishing or building a wall they are instructed to use reference materials to help them generate answers.

"BIDDING TAKES SKILL"

This activity was designed to acquaint students with the process of estimating the costs of a construction project and then submitting a bid to a customer. Students can work on the activity either in small groups or individually. The activity can be made competitive, if the teacher so desires, by noting that the job will be given to the lowest bidder. Students use local supply catalogs, where available, to determine prices and they also telephone local suppliers to get estimates of the cost of materials. A variety of worksheets are provided to help students through the activity.

"CONCRETE TAKES SHAPE"

This is a group activity in which students construct a concrete patio stone through the use of a wooden mold and then complete the worksheet, "Molding, Casting and Forming." The latter activity helps students to become familiar with eight occupations that involve the operations of molding, casting, and forming.

RESULTS

A maximum of thirty-six students in four classrooms participated in the complementary activities. At the conclusion of the cluster package, all students responded to the questionnaire "Your Opinions Again, Please!" Two students who participated in the complementary activities were randomly selected from each class for interviews. In addition, each teacher completed "Teacher Overall Perceptions" (TOP) and was interviewed.

STUDENT QUESTIONNAIRE DATA

The questionnaire "Your Opinions Again, Please!" consisted of forty-two items, the first thirty of which were general in nature, while the remaining twelve items were specific to particular complementary activities. Items assessed the students' interest in, use of, and understanding of the materials. Both positive and negative stems were included, and items were randomly ordered within the general and specific sets of items.

Although the sample of participating students contained 7th and 8th graders, and males and females, partitioning of the questionnaire responses based upon these factors would, as noted in the simulation section of this report, yield data cells with relatively small N's which would be difficult to interpret. Therefore, data will be collated across grade level and sex, and interpreted accordingly.

GENERAL ITEMS

STUDENT INTEREST (See Table 5.9)

In contrast to the results for the simulation described earlier the results related to interest in the complementary activities are much more positive and consistent. Of the eight questions in this set, seven received a positive response rate of 72% or higher. Examples of questions being positively received by students are: "I enjoyed doing the exploration activities";"Other students my age would enjoy doing these activities"; "I would like to try more activities like these"; etc. Only one question was not rated positively by students. Just slightly more than a quarter of the students wanted to continue adding to their own occupations album and more than a third were undecided about continuing this activity. This mixed reaction is typical of student responses th the Occupation Album activity as has been observed with its use in other classrooms pilot-testing CEP materials.

Disregarding the question about the Occupations Album, it is clear from the interest questions that students were consistently positive about the complementary activities. (Further, although the N's the small, this pattern seems to be consistent for the seventh and eighth graders included in the sample.)

STUDENT USE (See Table 5.9)

Again the pattern of highly positive and highly consistent results is evident for the seven general use items. The range of positive responses is from 60% to 83%. Students were able to work without the teacher telling them what to do each day and could easily read the materials. In addition they did not feel that too many students were involved in the complementary activities or that it was too noisy in the room. The two items that were in the low end

TABLE 5.8 Complementary Activities: General
Items dealing with INTEREST

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I enjoyed doing the exploration activities.	YES	82%	74%	77%	0%	0%	0%	82%	74%	77%
	NO	0%	11%	7%	0%	0%	0%	0%	11%	7%
	?	18%	16%	17%	0%	0%	0%	18%	16%	17%
	N	11	19	30	0	0	0	11	19	30
2. I found I had interests and likes that I didn't know about before.	YES	64%	79%	73%	0%	0%	0%	64%	79%	73%
	NO	9%	16%	13%	0%	0%	0%	9%	16%	13%
	?	27%	5%	13%	0%	0%	0%	27%	5%	13%
	N	11	19	30	0	0	0	11	19	30
3. Other students my age would enjoy these activities.	YES	55%	84%	73%	0%	0%	0%	55%	84%	73%
	NO	0%	0%	0%	0%	0%	0%	0%	0%	0%
	?	45%	16%	27%	0%	0%	0%	45%	16%	27%
	N	11	19	30	0	0	0	11	19	30
5. I want to continue to add to my own occupations album.	YES	20%	32%	28%	0%	0%	0%	20%	32%	28%
	NO	40%	37%	38%	0%	0%	0%	40%	37%	38%
	?	40%	32%	34%	0%	0%	0%	40%	32%	34%
	N	10	19	29	0	0	0	10	19	29
11. I enjoyed working with other students.	YES	73%	79%	77%	0%	0%	0%	73%	79%	77%
	NO	0%	11%	7%	0%	0%	0%	0%	11%	7%
	?	27%	11%	17%	0%	0%	0%	27%	11%	17%
	N	11	19	30	0	0	0	11	19	30
14. I didn't like many of the things I did in these activities.	YES	36%	11%	20%	0%	0%	0%	36%	11%	20%
	NO	64%	84%	77%	0%	0%	0%	64%	84%	77%
	?	0%	5%	3%	0%	0%	0%	0%	5%	3%
	N	11	19	30	0	0	0	11	19	30
16. I would like to try more activities like these.	YES	70%	74%	72%	0%	0%	0%	70%	74%	72%
	NO	20%	16%	17%	0%	0%	0%	20%	16%	17%
	?	10%	11%	10%	0%	0%	0%	10%	11%	10%
	N	10	19	29	0	0	0	10	19	29

TABLE 5.8 Complementary Activities: General
Items dealing with INTEREST (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
20. I would rather have done the things other students were doing.	YES	27%	5%	13%	0%	0%	0%	27%	5%	13%
	NO	73%	74%	73%	0%	0%	0%	73%	74%	73%
	?	0%	21%	13%	0%	0%	0%	0%	21%	13%
	N	11	19	30	0	0	0	11	19	30

TABLE 5.9 Complementary Activities: General
Items dealing with USE

			JEFF CO			COLUMBUS			TOTAL		
			7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
6.	The teacher had to tell us what to do each day.	YES	9%	11%	10%	0%	0%	0%	9%	11%	10%
		NO	82%	84%	83%	0%	0%	0%	82%	84%	83%
		?	9%	5%	7%	0%	0%	0%	9%	5%	7%
		N	11	19	30	0	0	0	11	19	30
7.	The Introduction to Exploring Occupations was a good beginning to the things we did.	YES	82%	53%	63%	0%	0%	0%	82%	53%	63%
		NO	0%	37%	23%	0%	0%	0%	0%	37%	23%
		?	18%	11%	13%	0%	0%	0%	18%	11%	13%
		N	11	19	30	0	0	0	11	19	30
10.	The materials were easy to read.	YES	82%	79%	80%	0%	0%	0%	82%	79%	80%
		NO	9%	16%	13%	0%	0%	0%	9%	16%	13%
		?	9%	5%	7%	0%	0%	0%	9%	5%	7%
		N	11	19	30	0	0	0	11	19	30
12.	There were too many other students involved in the activities at the same time.	YES	9%	16%	13%	0%	0%	0%	9%	16%	13%
		NO	82%	79%	80%	0%	0%	0%	82%	79%	80%
		?	9%	5%	7%	0%	0%	0%	9%	5%	7%
		N	11	19	30	0	0	0	11	19	30
13.	There was usually enough space in my classroom to do the activities.	YES	82%	74%	77%	0%	0%	0%	82%	74%	77%
		NO	9%	26%	20%	0%	0%	0%	9%	26%	20%
		?	9%	0%	3%	0%	0%	0%	9%	0%	3%
		N	11	19	30	0	0	0	11	19	30
17.	I always knew from the directions what I was supposed to do.	YES	45%	68%	60%	0%	0%	0%	45%	68%	60%
		NO	36%	32%	33%	0%	0%	0%	36%	32%	33%
		?	18%	0%	7%	0%	0%	0%	18%	0%	7%
		N	11	19	30	0	0	0	11	19	30
19.	It was too noisy to do many of these activities.	YES	27%	11%	17%	0%	0%	0%	27%	11%	17%
		NO	64%	89%	80%	0%	0%	0%	64%	89%	80%
		?	9%	0%	3%	0%	0%	0%	9%	0%	3%
		N	11	19	30	0	0	0	11	19	30

of the 60% - 83% range related to the program introduction as a good beginning for the activities and the clarity of directions. This positive although slightly lower positive response suggests that the same moderate improvement may be needed in the introduction as it relates to complementary activities, and the directions may at times, not be totally clear.

In summary, the general conclusion from these questions is that the complementary activities were easy to use.

STUDENT UNDERSTANDING OF THE MATERIALS (See Table 5.10)

Fifteen of the general items dealt with understanding -- eight involving student understanding of themselves and of the materials and seven concerning increased knowledge of work factors. In the first set of eight items the response pattern is, for the most part, highly positive (62%-83%). For example, students felt that they learned about: occupations they might be interested in; different types of occupations; and personal skills and abilities that they didn't know about before. In addition students felt that: they understood the ideas presented in the activities; the activities were not too hard to do; and they need to think more about what they want to be. This positive pattern was not observed for item #4, "I found I could solve problems that people really have on their jobs", and item #8, "I need to continue exploring occupations." Only 50% and 37% of the students responded positively to these items, respectively, possibly because these aspects are not now heavily emphasized in the complementary activities and might be stressed more in a revision of the materials.

The seven understanding items regarding the work factors were all positively received (63% - 87%). Students were interested in the activities, could use them easily and felt that they learned a great deal from them. The item receiving the lowest rating in this set that related to learning about how well people like their work, may indicate that some minor improvements are needed in

TABLE 5.10 Complementary Activities: General Items dealing with UNDERSTANDING

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
4. I found I could solve problems that people really have on their jobs.	YES	36%	58%	50%	0%	0%	0%	36%	58%	50%
	NO	36%	16%	23%	0%	0%	0%	36%	16%	23%
	?	27%	26%	27%	0%	0%	0%	27%	26%	27%
	N	11	19	30	0	0	0	11	19	30
8. I need to continue exploring occupations.	YES	27%	42%	37%	0%	0%	0%	27%	42%	37%
	NO	36%	26%	30%	0%	0%	0%	36%	26%	30%
	?	36%	32%	33%	0%	0%	0%	36%	32%	33%
	N	11	19	30	0	0	0	11	19	30
9. I learned about occupations that I might be interested in.	YES	50%	79%	69%	0%	0%	0%	50%	79%	69%
	NO	40%	16%	24%	0%	0%	0%	40%	16%	24%
	?	10%	5%	7%	0%	0%	0%	10%	5%	7%
	N	10	19	29	0	0	0	10	19	29
15. I didn't really learn about different occupations from these activities.	YES	9%	21%	17%	0%	0%	0%	9%	21%	17%
	NO	73%	79%	77%	0%	0%	0%	73%	79%	77%
	?	18%	0%	7%	0%	0%	0%	18%	0%	7%
	N	11	19	30	0	0	0	11	19	30
18. I didn't understand many of the ideas in the materials.	YES	18%	5%	10%	0%	0%	0%	18%	5%	10%
	NO	64%	74%	70%	0%	0%	0%	64%	74%	70%
	?	18%	21%	20%	0%	0%	0%	18%	21%	20%
	N	11	19	30	0	0	0	11	19	30
21. I learned I had skills and abilities that I didn't know about before.	YES	73%	79%	77%	0%	0%	0%	73%	79%	77%
	NO	9%	21%	17%	0%	0%	0%	9%	21%	17%
	?	18%	0%	7%	0%	0%	0%	18%	0%	7%
	N	11	19	30	0	0	0	11	19	30
22. Some of the activities were too hard for me to do.	YES	9%	11%	10%	0%	0%	0%	9%	11%	10%
	NO	73%	89%	83%	0%	0%	0%	73%	89%	83%
	?	18%	0%	7%	0%	0%	0%	18%	0%	7%
	N	11	19	30	0	0	0	11	19	30

TABLE 5.10 Complementary Activities: General Items dealing with UNDERSTANDING (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
23. I need to think more about what I want to be.	YES	64%	61%	62%	0%	0%	0%	64%	61%	62%
	NO	9%	28%	21%	0%	0%	0%	9%	28%	21%
	?	27%	11%	17%	0%	0%	0%	27%	11%	17%
	N	11	18	29	0	0	0	11	18	29

Items dealing with Work Factors:

"Since I've tried the Occupational Exploration activities, I feel I know more about..."

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
24. Where different people work.	YES	55%	74%	67%	0%	0%	0%	55%	74%	67%
	NO	27%	26%	27%	0%	0%	0%	27%	26%	27%
	?	18%	0%	7%	0%	0%	0%	18%	0%	7%
	N	11	19	30	0	0	0	11	19	30
25. How people work together on their jobs.	YES	82%	74%	77%	0%	0%	0%	82%	74%	77%
	NO	9%	26%	20%	0%	0%	0%	9%	26%	20%
	?	9%	0%	3%	0%	0%	0%	9%	0%	3%
	N	11	19	30	0	0	0	11	19	30
26. How well people in different occupations like their work.	YES	55%	68%	63%	0%	0%	0%	55%	68%	63%
	NO	18%	32%	27%	0%	0%	0%	18%	32%	27%
	?	27%	0%	10%	0%	0%	0%	27%	0%	10%
	N	11	19	30	0	0	0	11	19	30
27. What special skills are needed for different occupations.	YES	73%	95%	87%	0%	0%	0%	73%	95%	87%
	NO	18%	5%	10%	0%	0%	0%	18%	5%	10%
	?	9%	0%	3%	0%	0%	0%	9%	0%	3%
	N	11	19	30	0	0	0	11	19	30
28. How the community benefits from the work a person does.	YES	64%	74%	70%	0%	0%	0%	64%	74%	70%
	NO	0%	21%	13%	0%	0%	0%	0%	21%	13%
	?	36%	5%	17%	0%	0%	0%	36%	5%	17%
	N	11	19	30	0	0	0	11	19	30

TABLE 5.10 Complementary Activities: General Items dealing with UNDERSTANDING - Work Factors (Cont'd)

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
29. What a person is responsible for doing in an occupation.	YES	55%	79%	70%	0%	0%	0%	55%	79%	70%
	NO	36%	11%	20%	0%	0%	0%	36%	11%	20%
	?	9%	11%	10%	0%	0%	0%	9%	11%	10%
	N	11	19	30	0	0	0	11	19	30
30. The steps people need to follow to finish a job.	YES	82%	74%	77%	0%	0%	0%	82%	74%	77%
	NO	9%	26%	20%	0%	0%	0%	9%	26%	20%
	?	9%	0%	3%	0%	0%	0%	9%	0%	3%
	N	11	19	30	0	0	0	11	19	30

the complementary activities. Perhaps some modified "Speak Out" types of tapes could be developed and included in the materials. Additionally some minor rewriting of the materials may be required emphasizing some of the interesting (perhaps, valued) aspects of the occupations included in the complementary activities.

SPECIFIC ITEMS (Complementary Activities)

There were a total of 12 items in the questionnaire relating to the specific details of using, understanding and being interested in the complementary activities. These twelve questions do not evenly cover the five complementary activities. The questions were primarily focussed on possible areas of difficulty that might arise when the materials were used in classrooms.

The number of items that could be included was constrained by the overall length of the questionnaire. With thirty general items and fifteen simulation specific questions already in the questionnaire it was therefore difficult to include an extensive and exhaustive set of questions related to the each of the complementary activities. More specific details and concerns regarding individual products were collected by means of student interviews.

Student Interest in the Complementary Activities (See Table 5.11)

Of the two items dealing with student interest in the complementary activities, one was somewhat general, in nature, and the other related to a specific activity - "Frames Go Up". Responses to the first item (item #7) indicated that 64% of the students felt that the activities were very different from what they usually do in an industrial arts class. The response to the "Frame Game" which is part of the "Frames Go Up" activity was moderately positive. Slightly less than half of the students (49%) considered the activity to be a "lot of fun". Given the responses to the interest questions on the general

TABLE 5.11 Complementary Activities: Specific Items dealing with INTEREST.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
7. These activities weren't very different from what we usually do in industrial arts class.	YES	17%	25%	22%	0%	0%	0%	17%	25%	22%
	NO	67%	63%	64%	0%	0%	0%	67%	63%	64%
	?	17%	13%	14%	0%	0%	0%	17%	13%	14%
	N	12	24	36	0	0	0	12	24	36
9. The "Frame Game" was a lot of fun.	YES	36%	54%	49%	0%	0%	0%	36%	54%	49%
	NO	36%	29%	31%	0%	0%	0%	36%	29%	31%
	?	27%	17%	20%	0%	0%	0%	27%	17%	20%
	N	11	24	35	0	0	0	11	24	35

part of the questionnaire, it seems that on an overall basis students were very positive about the complementary activities but at the same time there were some specific activities which were not strongly endorsed. To the extent possible activities needing revision will be highlighted in the following several sections of this report (especially the section in which student interview results are summarized).

Student Use of the Complementary Activities (See Table 5.12)

For the five use items the response pattern that emerges is one that suggests varying degree of usage problems among the five complementary activities. Apparently, the use of the frames and the preparation and production of the concrete block presented no particular problems for students. In addition, they indicated that the teachers had ample time to help them with the frames. But students seemed to have some difficulty in obtaining information for the bidding activity as indicated by only 50% positive response rate. (The bidding may have necessitated that students make a variety of inquiry - type phone calls to various local supply houses. This was, perhaps, simply beyond the scope of students in this particular age group.) Item #8 probably provides the strongest indication of student perceptions of using the overall set of activities. Only 44% of the students felt that the activities were not hard (trouble free) to do. Over a third of the students (39%) were of the opposite opinion. This would tend to indicate problems with specific materials.

As a conclusion then, the ease of use of the complementary activities was dependent upon the nature of each activity. And, judging by the data described in this specific section as well as that presented earlier, (table 5.10) some of the main problems may lie in the directions accompanying each product.

TABLE 5.12 Complementary Activities: Specific Items dealing with USE.

			JEFF CO			COLUMBUS			TOTAL	
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
3. There were too many students crowded around the frames.	YES	25%	29%	28%	0%	0%	0%	25%	29%	28%
	NO	58%	63%	61%	0%	0%	0%	58%	63%	61%
	?	17%	8%	11%	0%	0%	0%	17%	8%	11%
	N	12	24	36	0	0	0	12	24	36
5. The teacher didn't have enough time to help us with the frames.	YES	17%	17%	17%	0%	0%	0%	17%	17%	17%
	NO	58%	75%	69%	0%	0%	0%	58%	75%	69%
	?	25%	8%	14%	0%	0%	0%	25%	8%	14%
	N	12	24	36	0	0	0	12	24	36
8. I didn't have any trouble doing the activities.	YES	25%	46%	39%	0%	0%	0%	25%	46%	39%
	NO	50%	42%	44%	0%	0%	0%	50%	42%	44%
	?	25%	13%	17%	0%	0%	0%	25%	13%	17%
	N	12	24	36	0	0	0	12	24	36
11. It was easy to get information for "BIDDING TAKES SKILL."	YES	17%	67%	50%	0%	0%	0%	17%	67%	50%
	NO	42%	17%	25%	0%	0%	0%	42%	17%	25%
	?	42%	17%	25%	0%	0%	0%	42%	17%	25%
	N	12	24	36	0	0	0	12	24	36
12. Using concrete was too messy.	YES	17%	21%	19%	0%	0%	0%	17%	21%	19%
	NO	75%	54%	61%	0%	0%	0%	75%	54%	61%
	?	8%	25%	19%	0%	0%	0%	8%	25%	19%
	N	12	24	36	0	0	0	12	24	36

Student Understanding of the Complementary Materials (See table 5.13)

Three of the five understanding items received positive responses in the 78%-92% range. Students felt that they learned: how it feels to be a construction worker; about the tools needed for different jobs; and about the different type of things one has to know in order to bid on a construction proposal. This latter learning is particularly striking inasmuch as students had some difficulty doing the bidding activity.

The other two understanding questions received a moderately positive response (50% and 53%). Both items dealt with understanding aspects of the use of frames and plans for constructing the frames. This response pattern is somewhat lower than would be anticipated based upon student responses to the general questions. Perhaps this is partially accounted for by the fact that the wording in the two items stems in negative and requires students to essentially use a double negative to indicate a positive response. In addition, some minor improvements in the activity directions would probably have increased the positive responses of students to these items.

Discounting slightly these last two questions, it is apparent that students considered the activities to be enhancing their understanding of the construction field. The responses were not just positive, but highly positive in this regard.

STUDENT INTERVIEWS

From the four classes participating in the construction activities, a total of eight students (two per class) were interviewed. The interviews were designed to collect specific student perceptions of individual activities as well as their feelings about the overall set of activities. The data collected in this manner is organized on a product basis.

"Frames Go Up"

Six of the eight students interviewed expressed positive feelings about

TABLE 5.13 Complementary Activities: Specific Items dealing with UNDERSTANDING.

		JEFF CO			COLUMBUS			TOTAL		
		7TH	8TH	ALL	7TH	8TH	ALL	7TH	8TH	ALL
1. I learned how it feels to be a construction worker.	YES	75%	79%	78%	0%	0%	0%	75%	79%	78%
	NO	8%	13%	11%	0%	0%	0%	8%	13%	11%
	?	17%	8%	11%	0%	0%	0%	17%	8%	11%
	N	12	24	36	0	0	0	12	24	36
2. I learned about tools which are needed for different jobs in construction.	YES	92%	92%	92%	0%	0%	0%	92%	92%	92%
	NO	0%	4%	3%	0%	0%	0%	0%	4%	3%
	?	8%	4%	6%	0%	0%	0%	8%	4%	6%
	N	12	24	36	0	0	0	12	24	36
4. I didn't know that frames are used in so many ways.	YES	17%	46%	36%	0%	0%	0%	17%	46%	36%
	NO	50%	50%	50%	0%	0%	0%	50%	50%	50%
	?	33%	4%	14%	0%	0%	0%	33%	4%	14%
	N	12	24	36	0	0	0	12	24	36
6. I learned about a lot of different things you have to know to bid on construction projects.	YES	83%	79%	81%	0%	0%	0%	83%	79%	81%
	NO	0%	13%	8%	0%	0%	0%	0%	13%	8%
	?	17%	8%	11%	0%	0%	0%	17%	8%	11%
	N	12	24	36	0	0	0	12	24	36
10. I couldn't understand the "plans" for building the frames.	YES	25%	42%	36%	0%	0%	0%	25%	42%	36%
	NO	67%	46%	53%	0%	0%	0%	67%	46%	53%
	?	8%	13%	11%	0%	0%	0%	8%	13%	11%
	N	12	24	36	0	0	0	12	24	36

the actual building of the frames (with two students noting that there was nothing they disliked about the activity). In addition, three of the eight students indicated that they were learning new things from the activity. At the same time, however, it should be pointed out that the activity did not provide enough meaningful involvement for all participants in the small group(s) that worked on the frames. To a degree, some students felt crowded (three out of eight) and some (three out of eight) were of the opinion that other students were either doing nothing or fooling around. The moderately positive responses to the activity observed in the questionnaire data, may have resulted from specific instances of crowding or of students not fully participating in the activity. Reduction in crowding probably would have increased the positive response rate.

"UTILITIES ARE IMPORTANT"

The interviewed students were quite divided in regard to their opinion of this activity. While some students indicated that they enjoyed working with pipe and that the activity was easy, others seemed to feel that it was almost too easy. These latter students commented about not having enough to do and that the activity was too sketchy with not enough detail provided. While two students reported that there was nothing about the activity they disliked, the above comments tend to lead to the conclusion that the activity simply was not challenging enough for students. More detail is probably needed.

"WORKERS BUILD WALLS"

The results indicated that four of the eight students who tried this activity did not respond either positively or negatively when interviewed about it. The most frequently cited positive aspect of the activity was the opportunity to learn about building walls. Difficulties were encountered in cutting the drywall (the need for a bigger sheet was mentioned) and in not getting a real chance to participate. Probably the physical problem of cutting the drywall may have detracted from the overall appeal and quality of the activity.

"BIDDING TAKES SKILL"

The perceptions regarding this activity were sharply divided in terms of positive and negative comments. Some students considered the activity to be an interesting experience and one that enhanced their understanding of the construction field. Interesting parts of the activity included: using phones; completing worksheets; getting estimates; and being competitive. But apparently there were a variety of difficult problems associated with the activity. Commonly cited problems were: making phone calls; trouble in getting prices; and unclear instructions.

From these comments it seems that "Bidding Takes Skill" has high learning and interest potential but must partially overcome some of the problems just described to maintain student interest in the activity.

"CONCRETE TAKES SHAPE"

This activity was the single most positively received one in the set. Students commented about the fun they had in working with concrete and that this type of activity gave them the opportunity to actually build/make something. The activity was easy yet at the same time interest was maintained and everyone was kept busy.

On the negative side, students felt that the activity was quite messy. It is unlikely that this problem can be alleviated inasmuch as it is part of the realistic job conditions. In addition, students are probably aware of the job conditions and simply were indicating their dislike for that side of the activity. This fact, however, was outweighed by positive student perceptions of making the concrete block.

STUDENT INTERVIEWS (OVERALL PERCEPTIONS)

After participating in the complementary activities, most students (5/8) indicated that they had more ideas about what they might like or not like to do when they're older. They also offered a variety of suggestions for improving the activities including the following two changes:

- using smaller working groups because some of the activities were simply too crowded (N = 5),
- alloting more time to complete products (N = 2).

When asked for a one word description of the complementary activities, five of the eight students gave highly positive responses. Examples of words used are: fun; good; fantastic; and entertaining. The other three responses ("different", "OK", "hard - sometimes easy") were positive but slightly more moderate in tone. These results are in close agreement with those obtained on both the general and specific sections of the student questionnaire. Clearly the activities constituted a valid, meaningful set of activities for those students who participated in the OEP pilot test. Although, individual activities definitely need to be improved, the set, as a whole, is a powerful tool for expanding the career horizons of students as judged by the students.

TEACHER QUESTIONNAIRE RESULTS (See Table 5.14)

The teachers' responses to the items pertaining to the complementary activities (i.e. Section IV: TOP) were generally positive. Both teachers felt these activities were a reasonable complement to the simulation; the activities held student interest; the illustrations increased student understanding of the activities, and the materials were generally well written and structured. The teachers' opinions were divided concerning the ease with which students shifted from one activity to another and whether the stories included in the activities appealed to students. Teacher comments relating to the latter statement were

SECTION IV: Perceptions of the Other Exploratory Activities

Part A

Was it easy for students to shift from one activity to another?	___ No	1 Somewhat	1 Yes	
Were these other exploratory activities reasonable complements to the simulation?	___ No	___ Somewhat	2 Yes	
Did these activities hold the student's interest?	___ No	___ Somewhat	2 Yes	
Did the stories included in many of the activities appeal to students?	___ No	1 Somewhat	___ Yes	NR 1
Did the illustrations increase student understanding of the activities?	___ No	___ Somewhat	2 Yes	
Were the materials generally well written or structured?	___ No	___ Somewhat	2 Yes	

Were there any places in these other exploratory activities where you found it necessary to intervene to maintain student interest, motivation and/or the flow of activities?

☐ No

2 Yes, (Please specify) Bidding: General overseeing and motivation of slower students (not big problem).

Part B

For those students participating in **"FRAMES GO UP," "CONCRETE TAKES SHAPE," "WORKERS BUILD WALLS," "BIDDING TAKES SKILL,"** and **"UTILITIES ARE IMPORTANT,"** check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in:				
FRAMES GO UP				2
CONCRETE TAKES SHAPE				2
WORKERS BUILD WALLS				2
BIDDING TAKES SKILL			1	1
UTILITIES ARE IMPORTANT			1	1
Learning about different occupations			1	1
Working with other students			1	1
Exploring occupations				2
Understood:				
The directions		1	1	
The written material			1	1
The vocabulary			1	1
The intent of the activities			2	
The intent of the entire package			1	1
The importance of exploring occupations			1	1

justified since none of the construction activities had a "story-line" within them to help stimulate student interest. Both teachers felt it was necessary to intervene to maintain student interest, motivation and/or flow of activities. One teacher felt it was necessary to oversee and help motivate the slower student; the other teacher felt it was necessary to intervene during the bidding activity.

Teacher comments relating to student enjoyment/interest in the activities and student understanding was moderately positive. Overall, teachers reported that they felt more students enjoyed what they did than understood various components of the activities (i.e., directions, reading level, intent of the materials). Both teachers felt that at least 76% of the students enjoyed participating in "Frames Go Up", "Concrete Takes Shape", and "Workers Build Walls" and enjoyed exploring occupations. They were mixed in opinion but felt at least the majority of students enjoyed: participating in "Bidding Takes Skill" and "Utilities Are Important", learning about occupations, and working with other students.

The teachers felt that at least 51%, the majority of students, understood the various components or factors in the activities. Teacher opinion was mixed concerning the percentage of students who understood the written material, the vocabulary, the intent of the entire package and the importance of exploring occupations. However, both teachers felt that 51-75% of the students understood the directions and intent of the activities.

The teachers reported they liked "Frames Go Up (n = 2), "Concrete Takes Shape" (n = 1), and "Workers Build Walls" (n = 1), most and liked "Utilities are Important" (n = 1), "Bidding Takes Skill" (n = 1), and "Frames Go Up" (n = 1), least. Both teachers reported they would use all of the complementary activities again.

TEACHER INTERVIEW RESULTS

At the conclusion of the pilot-test, each teacher was interviewed independently in order to assess their feelings concerning the use of the complementary activities. When asked if special problems were encountered when using the activities the teachers reported that:

- Students had a difficult time making calls to get prices for the bidding exercise. (n = 1)
- Drilling hole in frame for plumbing was difficult. (n = 1).
- Students did not understand some of the math concepts, radius, square foot, etc.
- Plumbing diagram and instructions disagreed as to the location of the brace. (n = 1).
- The wall frame was not mobile and caused problems in rainy weather. Recommend the use of 4" shelving clamps to secure wall frames inside classroom. One teacher commented that "Bidding Takes Skill" was one of the best activities.

When asked to make recommendations in order to improve the complementary activities the teachers suggested:

- Develop a poster with overall schedule for activities.
- Dry mount posters or use heavier stock.
- Develop a system for storing student papers and materials.
- Improve or equalize the duration of each activity (i.e. wall framing takes longer than bidding).
- Include more 16 d nails.
- Label number 2 x 4's with group or section number.

OVERALL COMPLEMENTARY ACTIVITY TRENDS

The same major overall conclusions that can be drawn from both student and teacher data regarding the complementary activities are that as a set of activities they:

1) were well received.

2) maintained student interest; and

3) were of reasonably high quality in terms of enhancing student understanding of occupations in the construction field.

The data from both student questionnaires and interviews, and teacher questionnaires and interviews is quite consistent as it pertains to the above conclusions. Perhaps these facts are best summarized by the one word descriptions of the activities given by students during the interviews. To reiterate, many of them used words like fantastic, fun, good and entertaining. Clearly something positive and valuable was occurring in the classrooms using these activities. On the other hand, there were certain aspects of the activities that should be re-examined and possibly revised. These aspects and suggestions for improvement are given below:

1) Although students rated the item related to "learning how well people like their work" positively (63%), it received the lowest overall rating for the items dealing with the understanding of work factors. This is an important factor and some modifications of the materials (or possibly the addition of a set of "Speak Out" tapes) would seem to be in order.

2) The bidding activity should be carefully re-studied. The telephone skills required for the activity may be too difficult for some students, and in some instances, local suppliers might not be willing to give the necessary information over the phone. At the same time, it should be emphasized that the activity be retained due to its extremely high potential for increasing student knowledge of the field.

3) The "Frame Game" probably should be revised. Less than half of the students (49%) were motivated by it.

4) The "Frames Go Up" activity should be rewritten so that a smaller group of students is using it one time. Some students felt crowded and/or that there was not enough meaningful work for all students to do.

5) "Utilities are Important" may be too lacking in detail to challenge students and/or maintain their interest. More specific facts should be included with activity materials.

6) For the activity entitled, "Workers Build Walls", larger pieces of drywall should be provided, if possible, to reduce the problems students had in cutting the material.

A variety of problems/suggestions were obtained from the teacher questionnaires and interviews, Of particular importance is the fact that teachers felt more students enjoyed what they did (at least 76%) than understood the various components/factors contained in the materials (at least 51%). They also noted that it was necessary to intervene to maintain student interest at times. Collectively, these results may indicate the need to alert teachers during in-service training to these particular areas of concern. Lastly, it should be pointed out that teachers made numberous suggestions for minor technical improvements in the materials that developers should carefully consider in revising the activities.

OVERALL IMPLEMENTATION OF THE CONSTRUCTION CLUSTER PACKAGE

Teacher Overall Perceptions (Table 5.15)

Prior to implementing the Construction cluster package only, one of the two teachers, who responded to the questionnaire, had used the "Introduction to Exploring Occupations". That teacher indicated that the Introduction was an effective starting point for the cluster package.

Before using the cluster package each day, both teachers reported spending ½ hour or less in preparation time.

The assignment of students to activities did not cause any problems for the teachers who responded to the questionnaire. In terms of other management activities teachers reported that:

1) the class was perhaps a little too large for managing the activities (n = 1),
2) the space in the room was somewhat inadequate (n = 2),
3) the sound level was somewhat intolerable (n = 2), and
4) the students could follow directions with some teacher assistance (n = 2).

In general then, management problems/difficulties seemed to be minor and

TABLE 5.15 TEACHER QUESTIONNAIRE RESULTS,
QUESTIONS 1-14 AND SECTION V

SECTION I: How Well Did the Entire Cluster Package Work?

1.	Excluding the Introduction, your preparation for the cluster package each day required	2 ½ hour or less	___ 1 hour	___ More than 1 hour	
2.	As a starting point for other activities, the "Introduction to Occupational Exploration" was	___ Ineffective	___ Somewhat ineffective	1 Effective	1 NR
3.	The assignment of students to activities (simulation and other activities) was	___ A problem throughout the activities	___ A problem only at the beginning	2 No problem	
4.	Students were able to follow directions with	___ Much teacher assistance	2 Some teacher assistance	___ Little teacher assistance	
5.	Most of the time, the sound level in the classroom was	___ Intolerable	2 Somewhat intolerable	___ About right	
6.	In terms of space needed to implement the activities, my classroom was	___ Inadequate	2 Somewhat inadequate	___ Adequate	
7.	In terms of managing the activities, the class (the number of students) was	___ Too large	1 A little too large	2 About right	

8. Circle the maximum number of major activities which you managed at one time. 1 $\overset{1}{2}$ 3 $\overset{1}{4}$ 5 6 7 8

9. Circle the maximum number of major activities which you feel you could manage successfully at one time. 1 $\overset{1}{2}$ $\overset{1}{3}$ 4 5 6 7 8

10. Circle the maximum number of simulations which you feel you could manage successfully at one time. 1 2 $\overset{2}{3}$ 4

11. Fill in the number of class periods required for the simulation and other exploratory activities. 1) 18 Simulation 20 Other Activities 1) N.R.

12. Fill in the number of students participating in the simulation and other exploratory activities. 1) 8 Simulation 16 Other Activities 1) N.R.

13. Did you have any major problems using or preparing to use specific printed materials in the cluster package?

☐ 1 No
☐ 1 Yes, (Please specify) Organization and knowing which posters to go up ahead of time. Two classes using the same printed materials.

14. Did you have any major problems using or preparing to use specific audiovisual materials in the cluster package?

☐ 2 No
☐ Yes, (Please specify)

SECTION V: Overall Considerations

Which activities (Simulation, Frames, Concrete, Walls, Bidding, Utilities) in the cluster package did you **Like Most** and which did you **Like Least**?

Liked Most	Liked Least
Frames Go Up (2)	Dry Wall (maybe) (1)
Concrete (1)	Bidding (1)
Walls (1)	Utilities (1)

How would you rate the overall set of activities in terms of the students maturation level?

____ Too Difficult   _2_ About Right   ____ Too Easy

Check which materials you would and would not use again:

	Would use	Would not use
Introduction	(1) Part; (1)?	
Simulation	2	
"Frames Go Up"	2	
"Concrete Takes Shape"	2	
"Workers Build Walls"	2	
"Bidding Takes Skill"	2	
"Utilities Are Important"	2	

Overall, how successful do you think the program was in terms of:

a) Feasibility in the classroom?	b) Expanding student awareness of occupations?
____ Very Unsuccessful	____ Very Unsuccessful
____ Unsuccessful	____ Unsuccessful
____ Average	____ Average
_1_ Successful	_1_ Successful
_1_ Very Successful	_1_ Very Successful

Overall, how would you rate the instructional quality of the cluster package?

____ Very Poor   ____ Poor   ____ Average   _1_ Good   _1_ Very Good

In the space below, please describe any additional observations you have about the program. Included could be: interesting side effects that you have noted; problems that may have occurred; and your recommendations for improvement/change.

(1) - Organizational dividers for student materials from day to day would be helpful. Students started using boxes for storage and class periods became mixed. (Need more nails--students bend about $\frac{1}{2}$). Didn't have any rocking rails. Ran short of plastic pipe when one group got ambitious.

represented what might be the ordinary travails of classroom teaching.

A general relationship was observed in the responses of both teachers to questions dealing with how many activities they actually managed at one time and how many they felt they could manage at one time. The optimum number of simultaneous activities seems to be two or three. Both teachers felt that they could successfully manage three simulations at the same time.

When asked if there were any major problems in using or preparing to use specific printed materials, one of the teachers indicated that organization and knowing which posters to put up ahead of time were problems. This teacher later suggested the use of organizational dividers from day to day. No difficulties were mentioned with regard to the audiovisual materials contained in the package.

Overall the teachers felt that the entire package was about right for the maturation level of their students. Their ratings of the feasibility of package use in the classroom and the ability of the package to expand the student awareness of occupations were both in the successful to very successful range. The instructional quality of the package was rated as good to very good.

IN-SERVICE TRAINING (Table 5.16)

The two teachers felt that the in-service training was effective in imparting the overall nature of the Occupational Exploration Program. Their responses changed slightly to questions that dealt with effectiveness of the in-service session in introducing the details of specific materials and the degree to which the session provided them with ideas. One teacher's responses to these items were somewhat ineffective and only some ideas were provided, respectively.

From the teacher interviews it was clear that some minor organizational and storage problems did occur. Perhaps some overall discussion of scheduling in the in-service session would have helped to alleviate these problems. The teachers were divided in their opinions regarding the quality of the teacher's

Table 5.16. TEACHER QUESTIONNAIRE RESULTS,
SECTION II: INSERVICE TRAINING

SECTION II: In-service Training

For introducing the overall nature of the Occupational Exploration Program, the in-service training was	___ Ineffective	___ Somewhat ineffective	2 Effective
For introducing the details of specific materials, the in-service training was	___ Ineffective	1 Somewhat ineffective	1 Effective
The in-service training provided me with	___ Very few ideas	1 Some ideas	1 Many ideas

guide and in their initial perceptions of how difficult the package would be to implement. After using the package both teachers agreed that it would be easy to use it a second time.

Again, both teachers agreed that running several groups at the same time is not as simple as it may seem. As one teacher noted "Supervision was tough especially with teachers who are uncomfortable with split supervisory responsibilities."

The teachers felt that they would integrate the package into their classrooms as a separate independent unit (n = 2) and/or as a set of activities spread throughout a woodworking course.

As a closing comment it is worthwhile to note one teacher's comments regarding unexpected outcomes from the utilization of the cluster package. The teacher observed that some students who had behavioral problems before seemed to turn around and to perform well, with noticeable reduction in their behavioral problems. While this comment is not directly tied into a specific cluster package activity, it does indicate that some activities were interesting/motivating students who, perhaps, were not participating in school before. This fact, although observed with a small group of students, is a positive endorsement of the overall concept of the Occupational Exploration Program.

CLUSTER PACKAGE SUMMARY

The Construction cluster package, as has been demonstrated in evaluation data described throughout the preceeding sections of this report, was, in general, relatively well suited for the students and teachers who participated in its pilot test. In particular, the complementary activities were well received by students in terms of the interest, use and understanding factors. While, several activities are in need of revision (i.e., "Bidding Takes Skill", "Workers Build Walls", and "Utilities are Important") the overall set of complementary activities worked exceptionally well. It is assumed that, upon revision, all activities will be in a sophisticated state and ready for eventual publication.

This same pattern of results was not obtained for the simulation, "Planning Construction Projects". Interest in the simulation was considerably lower (although still positive) than that observed for the complementary activities. Two specific areas of difficulty were determined in the pilot test. They are:

1) use aspects of the simulation including such things as missing directions, unclear directions, and activity imbalance in some roles; and

2) the preview phase may have been more suitable for younger students than those participating or it simply did not appeal to those students who used this simulation. The conclusion is that the simulation is workable and valuable for students but will require fairly extensive revisions.

Lastly, it has been noted in the testing of other OEP Cluster packages (1974-75) that the cluster package concept and the Construction Cluster Package itself are feasible in terms of classroom utilization. One caveat must be added for the potential adapter, however, and that is, that the construction cluster package can only be utilized in an industrial arts classroom. The nature of the complementary activities (i.e., the use of wooden frames, drywall, etc.) requires a large amount of working and storage space as well as the use of tools. Thus the generalizability of the package to other classrooms is limited as compared to other cluster packages.

CHAPTER VI: TRENDS ANALYSIS FROM THE EVALUATION DATA COLLECTED IN 1974-1975

VI. TRENDS Analysis from the Evaluation Data Collected in 1974-1975

Data collected during the 1973-1974 pilot-test of the Occupational Exploration Program, revealed definite similarities among seven different simulations in the areas of student interest, teacher acceptance, structural strengths and weaknesses, implementation outcomes, etc. (Altschuld, J.W. and Lave, J.S., 1975). Although the simulations were different in content, they were similar in structure. Each simulation was organized in four parts: Preview, Preparation, Participation and Summary. While the seven simulations were tested independently, the experimental design, instrumentation and student sample for each of the testing situations were parallel to the extent that trends could be identified.

From the data and trends reported as a result of the 1973-74 pilot-test, product criteria were established that were used in 1974-75 as guidelines for further product development (simulation and other activities). These criteria were developed to aid curriculum developers with the conceptualization, design and production of additional products. If there was general conformance to the criteria, it was hoped that these products would not contain some of the weaknesses and problems found in the earlier simulations.

During the 1974-1975 contract year, four unique cluster packages were developed. Each cluster package was similar in that it contained one simulation and several complementary activities that could be implemented in seventh or eighth grade classrooms. All activities were designed to impart occupational information related to five work factors: responsibilities, processes, environment, outcomes, and relationships. While the same criteria were used to develop each cluster package, it becomes apparent when comparing the packages that there are distinct similarities and differences between some of them.

The Health and Welfare and the Trade and Finance packages are parallel in terms of types of activities, structure, design style, and number of activities (n=4). Activities in either package can be implemented in any classroom and do not necessitate special space or facility requirements. Unlike these packages, the Arts and Humanities, and the Construction cluster packages are both unique in structure, design style, and the types of activities. They pose implementation constraints which prevent them from being used in a wide variety of classrooms. The Construction package must be implemented in an Industrial Arts class because of the safety and tool requirements. In order to effectively implement the Arts package, a large space in addition to the classroom must be located in the school for an Art exhibit.

In 1975, each of the cluster packages developed, was tested independently. The instrumentation used to assess student and teacher perceptions of the packages was parallel, but the sample (students) and some testing parameters (such as time) were not consistent for each of the four tests. Similar samples of students from Jeffco and Columbus participated in the Trade and Finance and Health and Welfare pilot-tests. The procedures employed to test these materials were identical in that, while one group of students implemented the simulation, the remaining students used the complementary activities.

The testing of the Arts and Humanities, and Construction cluster packages, however, was unique in the following respects:

- The Arts and Humanities package was completed, in draft form, too late in the regular school year for testing. A very limited case study of the package was carried out using one summer session classroom in Jefferson County.
- The Construction package required more than 20 periods to implement and that implementation was limited, by package constraints, to only Industrial Arts classroom settings. In the Columbus area where Industrial Arts is generally taught on a twice-a-week basis, it was not possible to locate classrooms for the pilot test. Only Jefferson County schools, which utilize a daily Industrial Arts schedule, were able to accomodate the test.

- The Construction package participants were primarily males enrolled in Industrial Arts classes.

These testing circumstances make it most difficult to compare the four cluster packages. Based upon the judgement of the project staff a decision was made to delete the ARTS package from further consideration in this chapter. Comparisons among the other three packages will constitute the main discussion. The reader must always remember that these comparisons are drawn from tests using moderately small samples. The comparisons should be regarded as probable trends rather than firm conclusions. Lastly, it should be noted that strata (and grade level) differences will not be reported simply due to the fact that only one strata was involved in the text of the Construction package.

The results from the three cluster packages have been studied to determine if common findings or trends have occurred. Each trend has been classified as a strength, weakness or other finding. If the trend is not supported unanimously by the data, then the cluster packages supporting the trend are listed in parentheses. The trends have been analyzed and are reported in three sections; 1) Trends observed across simulations, 2) Trends observed across complementary activities and 3) Trends observed across the implementation of the cluster packages.

TRENDS OBSERVED ACROSS SIMULATIONS

The three simulations analyzed in this trends section are "Touchpoint II", from the Health and Welfare cluster package; "Insurance ... It's a Risky Business," from the Trade and Finance cluster package; and "Planning Construction Projects," from the Construction package. It should be noted that the total number of students who participated in the simulations varied for each of the cluster packages tested. Seventy-one students participated in "Touchpoint II," fifty-four in "Insurance ..." and thirty-two in "Planning Construction Projects." Because of the varying sample size and the small number of students using the Construction simulation, some caution should be used when interpreting the findings.

Strengths

Student Interest
- Student interest in the simulations was high.
- Most students enjoyed the role they participated in.

Student Understanding
- Student understanding of the work factors was high.
- Most students learned a lot from their role.
- The illustrations helped students' understanding of the materials.
- Student understanding of their interests increased (Trade and Finance and Health and Welfare).

Use of Materials
- Most students found the materials easy to read.
- There was adequate space to complete the activities.
- Students had little difficulty in role selection (Construction and Health and Welfare)

Weaknesses

Student Interest
- The preview (slide-tape) did not effectively motivate students for participation in the simulation (Trade and Finance and Construction).
- The summary activity was not an effective ending (Construction and Trade and Finance).
- The simulation or parts of the simulation are geared toward younger students (Construction and Health and Welfare).

Student Understanding
- Students had trouble understanding the directions.
- It was difficult starting the simulation (Health and Welfare and Trade and Finance).

Student Understanding (cont.)

- The work - loads for the roles were not adequately balanced (Trade and Finance and Construction).
- Teachers felt they needed better step-by-step directions for the simulation (Health and Welfare and Trade and Finance).

Other Findings

- Students from Jeffco showed greater interest in the simulation and understanding of the work factors. (Health and Welfare and Trade and Finance).
- Teachers indicated that student interest was greater than their understanding.
- Most teachers (87%) indicated they would use the simulation again.

Implications to Developers

If one were to compare these findings to the trends, collected in 1973-74, it becomes apparent that many of the problems in the earlier simulations have been eliminated. Some of the major problems which were not found in these simulations included:

1) Excessive reading and at too high a level.
2) Empty roles.
3) Excessive complexity
4) Role shifting or forced role changes
5) Excessive equipment demands.
6) Poor illustrations
7) Difficulty in role location.

Some problems however, pointed out in the 1974 report are still present in the simulations. These problem areas include:

1) Poor, incomplete directions.
2) Non-motivational entry into the simulation
3) Ineffective summary activity
4) Lag time within some roles.

It is very difficult for developers to correctly identify student reactions to components of the simulation prior to the pilot-tests. Perhaps in order to better predict student acceptance and interest, it would be helpful to incrementally test the preview of each simulation with small groups of students. Student feedback and reactions could be collected and used to make minor revisions if needed. Although this procedure will increase developmental time, the changes made as a result of it could substantially enhance the students' overall perception to the simulation.

More difficult than developing a motivational preview appears to be the conceptualization and implementation of an effective summary activity which provides closure and a meaningful outcome. In Touchpoint II, although most students felt the summary was effective, some seventh grade students did not understand what a city council meeting was. The company meeting in the Insurance simulation and the architects' meeting with the Board of Education in the Construction simulation may have been too abstract for students to understand the procedures and processes involved. The meetings may be an effective means of closure, however, and it therefore may be necessary to provide students with more information on the objectives, the types of agenda, the procedures used to conduct such a meeting, the relationships among the various roles at the meeting, and the intended outcomes. It would be helpful also, if teachers could be made more aware of what their role is to be during these meetings and if they could provide students with relevant information to help them run a successful group meeting.

The need to include clear, precise, easy to follow directions in each of the simulations is emphatic in order to facilitate successful implementation of the materials. It was apparent that teachers and students had trouble begining the simulations and were uncertain of what to do. Perhaps if the objectives of simulating occupational roles were made very clear to the students and the objectives of the simulation defined (either through OEP materials or by the teacher), students would be able to commence in an occupational role without confusion. The role of the teacher in introducing the simulation should be explicitly defined at the inservice or in the teacher materials in order to facilitate an easy transition from using traditional classroom materials to simulation techniques.

Although the problem of lag time in most roles was greatly reduced, it appears that some of the roles are unbalanced in terms of activity. This problem can be eliminated by using pilot-test information to revise or modify some of the roles. It is impossible to correctly predict the amount of time most students need to complete activities without having the opportunity to test the materials with students. For the most part, most roles were adequately balanced and students had about the right amount of things to do in the simulation.

The progress made in the development of these simulations is clearly reflected in the evaluation results. The Health and Welfare and the Trade and Finance simulations, although having some problems, can serve as models for development of other simulations. The Construction simulation, while improved in some areas, needs some revision before it can be viewed as a comparable activity. The objectives of the Construction simulation and individual role activities have been adequately conceptualized, while the style and format of presentation to students needs to be improved. The style of writing and illustrations should be changed to reflect a higher level of design inorder to provide students with an improved product.

Trends Across Complementary Activities

Unlike the simulations, the OEP complementary activities were conceptualized and developed without having existing activities or models to work from. It was necessary to decide what types of activities would be most effective and complement the existing simulation. Thus a decision was made to develop activities that were varied in format and that would provide for a wide range of student abilities/interests. The activities included: board games; interview tapes; storyline booklets; and guidelines for constructing several products (Construction package.) A total of eleven new activities were developed and tested. These activities by cluster package are:

Construction	Health and Welfare	Trade and Finance
Frames Go Up	Speak - Out	Speak - Out
Utilities are Important	Clean	Bank on It
Workers Build Walls	Well	Keep on Truckin
Bidding Takes Skill		
Concrete Takes Shape		

Although it is difficult to asses the merits of one type of activity compared to another, the student and teacher reactions to the various formats used should be a general indication of success or failure and help with further development and/or adaptation of product formats.

The trends reveal general findings across the implementation and collective use of the activities. The trends are reported as they apply to student interest, use, understanding and other findings.

Student Interest

- Student interest was high for each set of complimentary activities.
- Students wanted to try more activities like these.
- Interest for specific activities varied in each cluster package.
- Keep On Truckin was most favored in Trade and Finance.
- Clean was most favored in Health and Welfare.
- Concrete Takes Shape was most favored in Construction
- Speak - Out was not well received in both Trade and Finance, and Health and Welfare.
- Most students enjoyed doing the activities.
- Most students would not have preferred to do other activities (i.e., simulation)

Student Use

- Most students found the materials easy to read.
- Most students found that the activities were not hard to do.
- The teacher didn't have to tell most students what to do each day.
- About 50-60% of the students understood the directions.
- Students had trouble using the tapes for Speak-Out (40%). (Health and Welfare and Trade and Finance).
- There was enough space to do the activities (according to students)
- The sound level in the class did not pose a problem.

Student Understanding

-
- Students learned about occupations they might be interested in.
- Students gained an increased knowledge of work factors.
- Students had an increase in understanding of their interests.
-

Other Findings

- No grade level trends were found (although this observation is based on a limited sample size).
- Some students were uncertain if other students their age would enjoy these activities (44% uncertain; Health and Welfare).
- The activities were generally rated as above average in success and feasibility by teachers.
- Most teachers would reuse most of the activities.
- Several activities were lacking in detail and may not have challenged students enough ("Well" in Health and Welfare and "Utilities are Important" from the Construction package).

Summary of Complementary Activity Trends

As the reader will recall, the goals for the pilot test conducted in 1974-75 included evaluating the possibility of using complementary activities in classrooms and the degree to which those activities were accepted by students and teachers. As is obvious from the brief collation of results described earlier in this chapter, the complementary activities are not only feasible for classroom use, but also by students and teachers. This is viewed as a partial validation of the concept of utilizing a varied activity approach to exploration. Inherent in exploration is the idea of seeking new ways to learn, of trying out new and different activities, and of learning new thoughts. Although the results of this pilot test are based on a small sample, they would seem to indicate a basis of support for the criteria/working guidelines for complementary activities developed during the past year.

It is difficult to draw specific implications for developers due to the fact that the complementary activities were not similar in design/concept. Despite this fact there are some trends that seem to emerge. They are as follows:

1. Although there was only one major game in the total set of complementary activities it seemed to have extremely high value for students. It was replayed many times. Apparently some degree of competition is helpful in maintaining student interest.

2. The Speak-Out tapes will probably have to be redone in a manner that is more meaningful to students. At present the tapes seemed long and somewhat boring. Yet, the potential of this technique as a different way for students to learn was underscored by the students themselves.

3. Activities that were deficient in detail such as "Well" and "Utilities are Important" probably did not challenge the students enough. Activities do not have to be overly detailed, but they must contain enough to keep students busy and involved.

Trends Across the Entire Cluster Package

The trends described in this section have been obtained from the teachers' overall perceptions of the cluster package. In the teacher questionnaire ("TOP") teachers were asked to respond to a variety of questions about the package and their implementation of it. Below is a brief listing of the trends observed.

Trends

- Somewhat inadequate classroom size (all packages)
- Teacher assistance was necessary to help students follow directions (Trade and Finance and Health and Welfare)
- Activities were about right in terms of student maturation (Trade and Finance and Construction)
- Instructional quality of the package was above average (Trade and Finance and Construction)
- Cluster package expanded student awareness of occupations (all packages)
- In-service training was good in terms of describing the overall philospshy of OEP (all packages)
- More detailed, step-by-step instructions were needed in the in-service sessions (all packages)
- Teacher's guide was helpful (all packages)
- No real difficulty in the concurrent use of different activities (all packages)
- Student-teacher interactions (and specialized student outcomes) changed positively (all packages)

From the above trends it is clear that the cluster package concept is feasible for classroom use, that teachers can implement these types of activities at one time, and that the package was successfully achieving specified program outcomes. Some of the problems that teachers observed probably cannot be affected by changes in program design. For example, it is possible to alert teachers to space requirements but impossible to alter the size of their classrooms. Directions in all activities should (and will) be improved, but some teacher assistance will always be needed and is desirable for meaningful classroom activities. With regard to implications for developers, the following suggestions are offered.

1. In general, directions for most package activities will have to be improved.
2. During in-service training it would be helpful to provide:
    - a slightly greater amount of detail for each of the products to be used;
    - more ideas on how to organize/facilitate activities; and
    - perhaps, a few anecdotes of how students' behavior has changed as a result of the program.

APPENDICES

Appendix 1

Arts and Humanities: A Case Study

Description of the Activities

* Simulation - "Art in the Marketplace"

In "Art in the Marketplace", students assume the roles of Gallery Director, Exhibit Designer, Public Relations Director, Exhibit Crew and Public Relations Staff. The students plan an art gallery, advertise a show, hang an exhibit, have an opening party, maintain the gallery and close the show. This simulation was designed to accomodate 12-15 students and to last about 15 class periods.

Initially, students view the slide/tape program, "Art In the Marketplace" in which they are introduced to art galleries and learn about roles involved in gallery management. In the next class period, students view the slide/tape "Choosing the Who" which introduces them to the various occupations represented in the simulation. Students then play a card sort of game in order to make their job/role selection. At the end of this activity, job assignments, including those of simulation leaders, have been made. The Gallery Director receives his handbook and is to read it before attending the next class.

In the next activity, gallery workers attend the first gallery meeting to view the slide/tape "With Pedestals and Thumb-tacks." This slide/tape shows how one group of junior high students built an art gallery in their school. It is meant to be used for the ideas it suggests and not to tell the students how to build their gallery. After viewing the slide/tape, the simulation participants decide how their gallery will be established and operated. Some of the things students need to decide on include: the name for the gallery, who should submit art, what type of art should be exhibited, how long the gallery will be open, and whether the art will be sold.

In the next activities, students work either individually or in small groups according to their job assignments. The exhibit designer and exhibit crew attend a gallery crew meeting at which time they view the slide/tape program "The Eye Catcher" and decide how the gallery will be built. The Gallery Director selects a jury, checks in the art as it is submitted, assists in jurying the exhibit and supervises in storing the art. In addition, the Gallery Director interacts with other gallery workers to help them with any problems that may arise. The Public Relations Director and staff attend a public relations staff meeting to formulate plans for advertising the gallery show. The students view the slide/tape "Tell It Like It Is" and decide on how they will obtain art for the exhibit and advertise the opening of the gallery. "Collection Engineers" (members of both Exhibit Crew and Public Relations Crew), read the comic book "Get Out and Get It." After reading the book, the students are to collect the materials and art pieces needed for the gallery. The Exhibit Designer reads the booklet "Designing a Gallery" and draws plans for utilizing the gallery space and decides on the colors and textures to be used in the gallery. The Public Relations Director and staff design a logo to be used on all promotional activities and write and give a speech to obtain art and write a news release to inform the public of the gallery's opening. In addition, they make posters to advertise the gallery and exhibit and make gallery invitations. In the meantime, the exhibit designer and crew build the gallery by cleaning or painting the designated gallery space, hanging or placing partitions and placing shelves, tools and stands. In addition, the crew decides where to place each art piece and then hangs or arranges the art as decided upon. The Lighting Technician collects supplies for lighting the gallery and arranges the lighting fixtures. The Gallery Director is responsible for planning and organizing the opening part and making assignments to other gallery workers. A Gallery "Catalogue," made in advance by the Public Relations Director and crew, assists the public in viewing the art display at the Exhibit Opening. At the opening, all gallery workers greet guests, serve refreshments and explain how the gallery developed.

The simulation ends after the exhibit is closed; the art pieces and materials are returned, and a final staff meeting is held. At this meeting, the students view slides or pictures taken during the opening of the show and discuss the experience.

Complementary Activities

*Behind the Scenes

Students read a story which describes the workers who get theatrical plays into production. From a series of directions on a poster, the students are able to become technicians and produce a flat for a play. This activity was designed for four students and is to last four class periods.

*Dressing the Part

After reading a short play, students design a costume for one of the leading characters. They measure a friend they have chosen to be an actor, estimate the yardage needed to construct the costume, shop for fabrics and accessories and prepare a cost estimate for the costume. This activity was designed to last three periods and involve two students working together.

*Literary Adventure

Students view a slide/tape "Nibbled to Death by Ducks," which is about the lifestyle of a free lance writer. They then begin to develop an idea of their own for a magazine article and write a query letter to an editor. This activity was designed to last three class periods and involve one student.

*Sound, Sound, Sound

This activity is an experience in creating a musical background for a slide program. Students view a slide program, "Far Out", and using their own tapes and records, they try to capture the mood of the amusement park in music. This activity was designed to involve two students and last three class periods.

*Step In Time

Using a prepared marching drill diagram, students learn how to perform drill and then they move into a sequence of activities including the diagraming of a drill of their own, teaching it to twelve classmates and performing it for the group. This activity was designed for 1 student but involves 12 students for four class periods.

*The Other Side of the Theater

Students learn that there is more to the theater than the performance. They use a theater seating diagram to determine how seats must be priced to make the play a financial success. This activity was designed to involve one student for one class period.

* The descriptions of these activities have been derived from narratives found in the Arts and Humanities Teacher's Guide. The OEP evaluators have seen the written materials developed for each activity but, as of this time, have not received copies of the slide/tape programs.

Pilot-Test Strategy

Unlike the other cluster packages pilot-tested in the Spring of 75, this cluster package was used during the summer school session of the Jefferson County, Colorado School District, in only one 8th grade classroom. Because of the compounding effects of testing the materials in the summer, along with the novelty of the materials and the small and inadequate number of students in the sample, it is difficult to draw any firm conclusions from the findings. Table 1 presents the number of students that participated in each of the activities and completed evaluation forms.

TABLE 1

ACTIVITY	Students who completed Evaluation Forms
Art in the Marketplace	8
Behind the Scenes	3
Dressing the Part	2
Literary Adventure	1
Step In Time	1
Sound, Sound, Sound	0
The Other Side of the Theater	0

Simulation Findings

Students' Perceptions

A frequency count by item is presented in Figure 1 of student responses to "Your Opinions Again, Please!" Due to the small number of respondents (n=8), no conclusions or trends can be made from the student responses; however, there may be a pattern developing to warrant the following statements:

FIGURE 1

Frequency of Student Response (n = 8)

YOUR OPINIONS AGAIN, PLEASE!

Now you've tried more of the activities of exploring occupations. We would like to know how you felt about them. This is not a test and your answers will not be graded. Check the answer that best describes what you think about your experiences. Thanks for your help.

Fill In The Following Information

Name Simulation Tabulations ______ Date ______

School Art in the Marketplace ______ Sex (Male or Female) ______

Grade ______ 7th x 8th Teacher ______

Below are a few sentences about the activities you have just participated in.

Check (✓) "Yes" if you agree with the sentence.
(✓) "No" if you do not agree with it.
(✓) "?" if you can't decide about your feelings.

Check Yes, No, or ?	YES	NO	?
1. I enjoyed doing the exploration activities.	6		2
2. I found I had interests and likes that I didn't know about before.	6	1	1
3. Other students my age would enjoy these activities.	5		3
4. I found I could solve problems that people really have on their jobs.	5	1	2
5. I want to continue to add to my own occupations album.	4	2	2
6. The teacher had to tell us what to do each day.		8	
7. The Introduction to exploring occupations was a good beginning to the things we did.	2	3	3
8. I need to continue exploring occupations.	4		4
9. I learned about occupations that I might be interested in.	4	1	3
10. The materials were easy to read.	7		1
11. I enjoyed working with other students.	6		2

Frequency of Student Response (n = 7)

		YES	NO	?
12.	There were too many other students involved in the activities at the same time.		6	1
13.	There was usually enough space in my classroom to do the activities.	5	1	1
14.	I didn't like many of the things I did in these activities.		4	3
15.	I didn't really learn about different occupations from these activities.	2	2	3
16.	I would like to try more activities like these.	5		2
17.	I always knew from the directions what I was supposed to do.	6	1	
18.	I didn't understand many of the ideas in the materials.		5	2
19.	It was too noisy to do many of these activities.	1	5	
20.	I would rather have done the things the other students were doing.		6	1
21.	I learned I had skills and abilities that I didn't know about before.	2	3	2
22.	Some of the activities were too hard for me to do.		7	
23.	I need to think more about what I want to be.	4	1	1
24.	Since I've tried the Occupational Exploration Activities, I feel I know more about:			
	a) Where different people work.	5	2	
	b) How people work together on their jobs.	7		
	c) How well people in different occupations like their work.	5	1	1
	d) What special skills are needed for different occupations.	5	1	1
	e) How the community benefits from the work a person does.	6		1
	f) What a person is responsible for doing in an occupation.	6		1
	g) The steps people need to follow to finish a job.	7		

ANSWER THESE QUESTIONS IF YOU WERE IN "ART IN THE MARKETPLACE"

Check (✓) Yes, No, or ?

	YES	NO	?
1. After seeing the slide show, "Art In The Marketplace," I wanted to participate in the activity.	4		4
2. The card sort in "Choosing The Who" helped me to select the job I wanted.	5	1	2
3. It was a lot of fun being part of "Art In The Marketplace."	5	1	2
4. I wish this activity lasted longer.	4		4
5. I had enough information to do all my work.	6	1	1
6. Other students my age would enjoy these activities.	5		3
7. "Art In The Marketplace" would be more interesting for younger students.		3	5
8. All the things we did in this activity seemed to fit together well.	7		1
9. I learned a lot from my job assignment.	6	1	1
10. At times, I had nothing to do.	2	5	1
11. At times, I had too much to do.	3	4	
12. The last staff meeting provided a good ending for this activity.	4	1	3
13. The slide tapes helped me to understand what I was supposed to do.	2	4	2
14. I enjoyed the job assignment I had in "Art In The Marketplace."	6	1	1

15. Check (✓) your job assignment in "Art In The Marketplace."

____ Gallery Director
2 Exhibit Designer
2 Public Relations Director

1 Exhibit Staff
3 Public Relations Staff
____ Assistant Gallery Director

Thanks for your help. Please give this questionnaire to your teacher when you are done with this page.

1) These students did not experience difficulty in understanding what to do each day. General Items #6 and #17.
2) The materials were easy to read and do. General Items #10 & #22.
3) Student interest in the activities was moderately high. General Items #1, #16, #20.
4) Students gained increased understanding of work factors. General Item #24.
5) The slide tapes did not aid student understanding of what they were to do. Specific Items #1 & #13.
6) The activity might be better suited for younger students. Specific Items #6 & #7.
7) Information about occupations and the relationship between occupations and the students' self understanding did not seem to come across well. General Items #9, #15,#21.
8) That the sequencing of activities to job assignments needs to be studied. Some students reported having nothing to do at times while others reported having too much to do. Specific Items #10 & #11.
9) Students were divided in opinion concerning the effectiveness of the cast/staff meeting in providing closure to the simulation. Specific Item #12.

One student was randomly selected and interviewed. This student had the role of the public relations director and enjoyed it because of the responsibility that was part of the job. She felt other students would like everything about the simulation with the exception of the slide/tapes. She felt they were too childish and juvenile. In addition, she felt the way students were grouped was not too functional. She indicated that the simulation was realistic, but she was not getting more ideas about what she wanted to be as a result of her participation.

Teacher Perceptions of the Simulation

The one teacher who implemented this cluster package completed a questionnaire (Teacher Overall Perceptions - TOP) and was interviewed. This teacher's responses were overwhelmingly positive concerning all aspects of the simulation and the students' reactions to it. In addition, she indicated she would like to use the simulation again.

In the interview, the teacher commented: that six weeks are needed to do the simulation; and it was difficult finding sufficient space to do the simulation and the other activities. In addition, the teacher commented in TOP that the program was very unsuccessful in terms of feasibility in the classroom. In Figure 2, the teacher's responses to Sections 3 and 5 of TOP are presented.

FIGURE 2

SECTION III: Perceptions of the Simulation

Teacher Responses (n = 1)

Part A

Was the preview effective in motivating students?	___ No	___ Somewhat	1 Yes
Was there enough information for students to select roles?	___ No	___ Somewhat	1 Yes
Were the simulation materials generally well written?	___ No	___ Somewhat	1 Yes
Did the illustrations increase student understanding of the simulation materials?	___ No	___ Somewhat	1 Yes
Did the situations in the simulation maintain student interest?	___ No	___ Somewhat	1 Yes
Did the students possess adequate skills to do the activities?	___ No	___ Somewhat	1 Yes
Did the summary provide an incentive to explore occupations further?	___ No	___ Somewhat	___ Yes

Were there any places in the simulation where you found it necessary to intervene to maintain student interest, motivation, and/or the flow of activities?

☒ No

☐ Yes, (Please specify) ______________________________

Part B

For those students participating in **"ART IN THE MARKETPLACE"** check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in "Art in the Marketplace"				1
Having a realistic occupational problem to solve				1
Playing different occupational roles				1
Learning about different occupations				1
Working with other students				1
Exploring occupations				1
Understood:				
The directions				1
The written materials				1
The vocabulary				1
The intent of the activities				1
The intent of the entire package				1
The importance of exploring occupations				1

SECTION V: Overall Considerations

Which activities (**Simulation, Behind the Scenes, Literary Adventure,** etc.) in the cluster package did you **Like Most** and which did you **Like Least**?

Liked Most	Liked Least
Behind the Scenes	Step in Time
Sound, Sound, Sound	Other Side of the Theater

How would you rate the overall set of activities in terms of the students maturation level?

____Too Difficult   _x_ About Right   ____Too Easy

Check which materials you would and would not use again:

	Would Use	Would not Use
Introduction	x	
Simulation	x	
Behind the Scenes	x	
Dressing the Part	x	
Literary Adventure	x	
Sound, Sound, Sound	x	
Step in Time		
The Other Side of the Theater		

Overall, how successful do you think the program was in terms of:

a) Feasibility in the classroom?	b) Expanding student awareness of occupations?
_x_ Very Unsuccessful	____Very Unsuccessful
____Unsuccessful	____Unsuccessful
____Average	____Average
____Successful	_x_ Successful
____Very Successful	____Very Successful

Overall, how would you rate the instructional quality of the cluster package?

____Very Poor   ____Poor   ____Average   _x_ Good   ____Very Good

In the space below, please describe any additional observations you have about the program. Included could be: interesting side effects that you have noted; problems that may have occurred; and your recommendations for improvement/change.

Complementary Activities

Student Reactions and Teacher Perceptions

Since only 3 students completed "Your Opinions Again, Please!" and only two students were interviewed, it is impossible to draw any conclusions from the findings. The teacher reported in "TOP" that 22 students completed the complementary activity; however, most students did not complete the evaluation forms. Figure 3 represents the collated responses of items completed by students who participated in the specific activities. In Figure 4 the teacher's responses to Section IV of TOP: perceptions of the other activities are presented.

The teacher's perceptions of the complementary activities are less favorable than her previous reactions to the simulation. In the interview, the teacher felt that no more than two students should be assigned to a complementary activity. She reported that other students lost interest in the activities after another group of students completed it. In addition, finding sufficient space to do all the activities was a problem. In Figure 5, the teacher's overall perceptions of the cluster package are summarized. Lack of sufficient classroom space to do the activities was again indicated as a problem.

Conclusion

The pilot-test of this cluster package was insufficient to warrant any final conclusion about the success of the activities, due to the limited sample size and unique aspects of pilot-testing during the summer session. A more extensive pilot-test is needed to validate the preliminary results from this "mini-trial".

Some problems in the materials, however, do appear to emerge from these findings:

FIGURE 3

Frequency of Student Response (n = 3)

Answer these questions if you tried Behind the Scenes, Literary Adventure, Dressing the Part or other exploratory activities.

Check (✓) Yes, No, or ?

		YES	NO	?
Behind the Scenes				
1.	The teacher was too busy to help us build the flat.		2	1
2.	I had trouble understanding the "Plans" for building the flat.		3	
3.	I learned a lot about jobs in the theater.	2		1
4.	I enjoyed reading the story in the booklet.		3	
Dressing the Part				
1.	I enjoyed doing this activity.	2		
2.	The costume requirement chart helped me plan the style for the costume.		1	1
3.	I had trouble estimating fabric cost.	1		
4.	I learned a lot about the costumer's job.	1		
The Other Side of the Theater				
1.	I learned a lot about the business/management side of the theater.			
2.	I enjoyed playing the role of the theater treasurer in this activity.			
3.	The math was hard to do.			
4.	I had trouble pricing the tickets.			

Literary Adventure

		YES	NO	?
1.	I enjoyed watching the slide tape "Nibbled to Death by Ducks."		1	
2.	I understood what was meant by a "query letter."		1	
3.	I had trouble finding the book Writer's Market - - - 1975.		1	
4.	I enjoyed learning about free lance writing.	1		
5.	I would like to see the article I wrote published.	1		

Step in Time

		YES	NO	?
1.	I had trouble understanding how to diagram the drill.	1		
2.	I enjoyed participating in this activity.	1		
3.	There were too many students to teach the drill to.		1	
4.	I had trouble understanding the drill commands.			
5.	I learned about different occupations in dance.			

Sound, Sound, Sound

		YES	NO	?
1.	I had trouble getting all the equipment and materials I needed to make a sound track.			
2.	I enjoyed taping the sound slide presentation.			
3.	I learned about occupations in the recording industry.			
4.	It was easy to use and operate the sound equipment.			

FIGURE 4

SECTION IV: Perceptions of the Other Exploratory Activities

Part A

Teacher Responses (n = 1)

Was it easy for students to shift from one activity to another?	___ No	1 Somewhat	___ Yes
Were these other exploratory activities reasonable complements to the simulation?	___ No	1 Somewhat	___ Yes
Did these activities hold the student's interest?	___ No	1 Somewhat	___ Yes
Did the stories included in many of the activities appeal to students?	___ No	___ Somewhat	1 Yes
Did the illustrations increase student understanding of the activities?	___ No	___ Somewhat	1 Yes
Were the materials generally well written or structured?	___ No	___ Somewhat	1 Yes

Were there any places in these other exploratory activities where you found it necessary to intervene to maintain student interest, motivation and/or the flow of activities?

☐ No

☐ Yes, (Please specify) ____________________

____

Part B

For those students participating in "BEHIND THE SCENES," "DRESSING THE PART," "LITERARY ADVENTURE," "SOUND, SOUND, SOUND," "STEP IN TIME," and "THE OTHER SIDE OF THE THEATRE" check the percentage you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in:				
BEHIND THE SCENES				1
DRESSING THE PART	1			
LITERARY ADVENTURE				1
SOUND, SOUND, SOUND				1
STEP IN TIME	1			
THE OTHER SIDE OF THE THEATRE	1			
Learning about different occupations			1	
Working with other students				1
Exploring occupations		1		
Understood:				
The directions			1	
The written material			1	
The vocabulary			1	
The intent of the activities		1		
The intent of the entire package	1			
The importance of exploring occupations	1			

FIGURE 5

Teacher Overall Perceptions

Name ____________________

School ____________________

City ____________________

Date ____________________

DIRECTIONS: To respond, simply check (✓) the phrase that best describes your response or fill in the requested information. Space has been provided at the end of this questionnaire for you to write in any comments and suggestions you have. When you have completed this questionnaire, please return it to the individual who will be interviewing you. Thank you for your help and cooperation.

SECTION I: How Well Did the Entire Cluster Package Work?

Teacher Responses (n = 1)

1. Excluding the Introduction, your preparation for the cluster package each day required	1 ½ hour or less	___ 1 hour	___ More than 1 hour
2. As a starting point for other activities, the "Introduction to Occupational Exploration" was	___ Ineffective	1 Somewhat ineffective	___ Effective
3. The assignment of students to activities (simulation and other activities) was	___ A problem throughout the activities	___ A problem only at the beginning	1 No problem
4. Students were able to follow directions with	___ Much teacher assistance	___ Some teacher assistance	1 Little teacher assistance
5. Most of the time, the sound level in the classroom was	___ Intolerable	___ Somewhat intolerable	1 About right
6. In terms of space needed to implement the activities, my classroom was	1 Inadequate	___ Somewhat inadequate	___ Adequate
7. In terms of managing the activities, the class (the number of students) was	___ Too large	___ A little too large	1 About right

8. Circle the **maximum** number of **major** activities which you managed at one time. 1 2 3 [✓ 4] 5 6 7 8

9. Circle the **maximum** number of **major** activities which you feel you could manage successfully at one time. 1 [✓ 2] 3 4 5 6 7 8

10. Circle the **maximum** number of **simulations** which you feel you could manage successfully at one time. [✓ 1] 2 3 4

11. Fill in the number of class periods required for the simulation and other exploratory activities. 30 Simulation ____ Other Activities

2. Fill in the number of students participating in the simulation and other exploratory activities. 15 Simulation 22 Other Activities

13. Did you have any **major** problems using or preparing to use specific printed materials in the cluster package?

☒ No
☐ Yes, (Please specify) ________________

14. Did you have any **major** problems using or preparing to use specific audiovisual materials in the cluster package?

☐ No
☒ Yes, (Please specify) Using Synchronized slide-tape

SECTION II: In-service Training

For introducing the overall nature of the Occupational Exploration Program, the in-service training was	___ Ineffective	___ Somewhat ineffective	1 Effective
For introducing the details of specific materials, the in-service training was	___ Ineffective	___ Somewhat ineffective	1 Effective
The in-service training provided me with	___ Very few ideas	___ Some ideas	1 Many ideas

- the need for a large amount of space to implement the activitics.
- the limited amount of information students indicated they learned about occupations.
- the length of time to complete the simulation (30 class periods, although it should be noted that some student participation occurred in after school sessions and on week-ends.)

It is recommended that curriculum revisors study these materials as they stand in terms of the tentative problem areas identified above and with regard to factors such as range of occupations, content of the activities, occupational experiences provided to students, and package implementation and space requirements. Decisions to revise/modify any or all of the activities should be made only after more extensive testing and/or further study of the cluster package.

APPENDIX II: Notes on Reliability

Determining the reliability of the student questionnaires used in this evaluation study requires the utilization of a technique different from that ordinarily associated with the reliability of attitude scales or cognitive achievement tests. Questionnaires of the type employed in evaluating OEP differ from attitude scales and achievement tests in the following ways:

1) To a high degree each item contained in the questionnaire was designed to provide specific information for the project staff i.e., each item was independent as opposed to being part of a single scale.

2) Clustering items under generic headings such as Interest, Use, and Understanding does not imply that the items will have a direct relationship. For example, under the Use category, it is quite conceivable for a student to indicate that the material is easily read but that the directions are unclear.

3) Since the items are independent, applying the standard internal consistency measures would not be appropriate. Internal consistency estimates of reliability assume unidimensionality (one scale) of items - an assumption which, by design, is not met in this instance. Test - retest estimates were also ruled out by the constraints of the pilot-test situation - it was not possible to administer the instrument twice to students.

With the above differences in mind, "check" questions were built into the two student questionnaires. The concept of the "check" question is that it is similar in content to another question on the instrument and that its correlation with that other question will be a pseudo or proxy measure for reliability.

Several aspects of this approach to determining reliability should be noted. First, to anticipate a relatively high measure of proxy reliability as compared to an internal consistency estimate would, in most cases, be unlikely. The intercorrelation of just two items is - and can only be - a poor approximation of reliability. Secondly, the scale of the items themselves is very limited and hence the realistic upper boundaries of their intercorrelation would probably be somewhat below perfect correlation (r = 1.00). For the two sets of "check" questions utilized in the two student questionnaires, only the yes and no responses were accepted for computing the correlation coefficients. This was necessitated by the fact that the coding strategy caused the program to lump together both undecided and missing data responses into one category. Thus the decision was made to only use yes and no responses, although this would tend to slightly lower the correlation coefficients obtained. And finally, the "check" items are similar but not totally identical, in concept, to the items they are being correlated with. This will also limit the magnitude of the obtainable correlation coefficient.

Table II.1 contains the proxy measures of reliability for the instruments "YOUR OPINIONS, PLEASE!" and "YOUR OPINIONS AGAIN, PLEASE!". The check items for each instrument, respectively, are as follows:

- For "YOUR OPINIONS, PLEASE!"
  - #5. I didn't like many of the things I did in the Introduction.
  - #15. The Introduction was boring for me.
- For "YOUR OPINIONS AGAIN, PLEASE!"
  - #1. I enjoyed doing the exploration activities.
  - #14. I didn't like many of the things I did in these activities.

As the reader may have observed, the desired correlation coefficients for the latter set of questions should be negative in nature. In other words, a "yes" response for item one should have been followed by a "no" response to item fourteen.

As is shown in the table, moderate (but significant) correlations were obtained as proxy estimates of reliability. Aside from the Construction package, all estimates are in the same general range (.27 -.32). Given the limitations described earlier, these estimates are assumed to be a reasonable indication of questionnaire reliability.

TABLE II.1: PROXY RELIABILITY ESTIMATES (CHECK ITEM CORRELATIONS) FOR THE STUDENT QUESTIONNAIRES

Package/Correlation

Questionnaire	Introduction	Health and Welfare	Trade and Finance	Construction	Total
"YOUR OPINIONS, PLEASE!"	.27* (n = 330)	-	-	-	.27* (n = 330)
"YOUR OPINIONS AGAIN, PLEASE!"	-	-.32* (n = 142)	-.28* (n = 151)	-.16 (n = 64)	-.27* (n = 357)

*Significant at $p \leq .01$

occupational exploration program

Your opinions, please!

Pilot Test 1975

Your opinions, please!

Now that you have tried out the Introduction to Exploring Occupations, we would like to know what your feelings are about it. This is not a test and your answers will not be graded. Thanks for your help.

Fill in the spaces below

Name ______________________________ Date ____________________

School ______________________________ Teacher ____________________

Grade ______7th ______8th Sex ______Male ______Female

Directions: Read each of the sentences below.

Check (✓) Yes if you agree with the sentence.
Check (✓) No if you disagree with the sentence.
Check (✓) ? if you are not sure or don't know how you feel.

Check either Yes, No, or ? for each sentence.

		YES	NO	?
1.	I think most students my age would enjoy the comic strips.	______	______	______
2.	When I used the "Likes" List and the posters, I learned about a lot of jobs I might be able to do.	______	______	______
3.	When I filled in the comic strips, I thought about what I might be when I'm an adult.	______	______	______
4.	I wasn't able to read many of the materials in the Introduction.	______	______	______
5.	I didn't like many of the things I did in the Introduction.	______	______	______
6.	I'm not sure I understood the "Likes" List and posters.	______	______	______
7.	I liked watching the slide show.	______	______	______
8.	After I saw the slide shows, I wanted to explore occupations.	______	______	______
9.	The music of the slide shows was good.	______	______	______
10.	I need to think more about what I want to be.	______	______	______
11.	The comic strips were hard to read.	______	______	______
12.	I learned about a lot of new ideas in the Introduction.	______	______	______
13.	I understood the directions in the Introduction.	______	______	______
14.	The "Likes" List and the posters were easy to use.	______	______	______
15.	The Introduction was boring for me.	______	______	______
16.	I want to continue to add things to my own occupations album.	______	______	______

	YES	NO	?
17. I think I understand what it means to put occupations into groups.	____	____	____
18. It's important to understand about jobs before you choose one.	____	____	____
19. I don't think other students my age would like the Introduction.	____	____	____
20. The "Likes" List and the posters were fun to use.	____	____	____
21. There were too many comic strips to fill in.	____	____	____
22. I'm not sure I understood what the slide shows were about.	____	____	____
23. I feel like I want to start exploring occupations right away.	____	____	____

Please give this questionnaire to your teacher when you are done. Thanks again for your help.

Occupational
Exploration
Program

INTRODUCTION TO EXPLORING OCCUPATIONS

STUDENT INTERVIEW FORM

Student Name ______________________ Sex (M or F) ______ Date __________

Teacher Name ______________________ Grade (7th or 8th) ______________

School ______________________ City ______________________

Interviewer's Name ______________________________

First Part of the Interview

1. Introduce yourself
2. Explain purpose of interview: to find out the students' feelings about the Occupational Exploration Program Introduction.
3. Ask student for name, fill out student information above.

Second Part of The Interview

(Now say to student)

Now I'll read some questions to you, and you just give me your answers, OK?

1. a. What do you think other students would like most about the Introduction?

Liked Most

____

____

____

b. What do you think they would like least?

Liked Least

____

____

____

Yes ☐ No ☐ 2. Do you have any ideas of what occupations you might be interested in?

Yes ☐ No ☐ 3. Have you thought much about exploring occupations before using this introduction?

(If "No", go to #4)

(If yes,) What kinds of things have you done, or thought about. (Probe further) ______________________________

____

____

Yes ☐ No ☐ ? ☐ 4. Is it useful to think about occupations at your age?

(If no) At what age should you begin to think about occupations?

____

Why at that age? ______________________________

____

____

5. What are the most important things you feel you should consider before choosing an occupation? (Probe) (What are some of the things you might like or not like about a job?) ______________________________

____

____

____

____

____

____

____

____

____

____

Yes ☐ No ☐ ? ☐

6. Since you've participated in the Introduction, do you feel you're getting more ideas about what you might do when you're older?

Yes ☐ No ☐ ? ☐

7. Did you have any special problems using the Introduction? (Were there things you weren't able to read? Or places in the materials where you didn't know what to do next?)

(If yes) What were they?

____

____

____

Yes ☐ No ☐ ? ☐

8. Were there any ideas presented in the introduction that were not clear or that you just didn't understand?

(If yes) What were they?

____

____

____

9. If you could change anything in the Introduction to make it better, would you change:

Yes ☐ No ☐ ? ☐ -The comic strips? (If yes) How? ______________________________

____

Yes ☐ No ☐ ? ☐ -Working It Out and Liking It Too? (If yes) How? ______________________________

____

Yes ☐ No ☐ ? ☐ -Occupations Album? (If yes) How? ______________________________

____

Yes ☐ No ☐ ? ☐ -Slide Tape Presentation? (If yes) How? ______________________________

____

10. What one word would you use to describe how you feel about the Introduction? ______________________________

11. Do you have any other ideas about how to make the Introduction better?

____

(Say to student)

Okay, That's it. Your answers will really help the Introduction better the next time other students use it. Thanks for your help.

occupational
exploration
program

tip

Teacher Initial Perceptions
Pilot Test 1975

THE OCCUPATIONAL EXPLORATION PROGRAM

Teacher
Initial
Perceptions

Name ______________________________

School ______________________________

City ______________________________

Date ______________________________

DIRECTIONS: To respond, simply check ( ) the phrase that best describes your response or fill in the requested information. Space has been provided at the end of this questionnaire for you to write in any comments and suggestions you have. When you have completed this questionnaire, please return it to the person who will be interviewing students from your class. Thank you for your help and cooperation.

SECTION I: How Well Did The Introduction Work?

Time Requirements

1. Excluding in-service training, your preparation to use the introduction required	____ Less than 1 hr.	____ 1-2 hrs.	____ More than 2 hrs.
2. In your class the introduction lasted approximately	____ 1 Period	____ 2 Periods	____ 3 Periods or More
3. The instructional time for the introduction was	____ Too Short	____ About Right	____ Too Long

Materials Organization/Structure

4. The development of the concept of exploration in the introduction was	____ Poor	____ Average	____ Good
5. The development of the concept, grouping of occupations, was	____ Poor	____ Average	____ Good
6. For maintaining student interest, the pacing of activities was	____ Too Slow	____ About Right	____ Too Fast
7. In relation to the objectives of the introduction, the printed materials were	____ Not Well Related	____ Somewhat Related	____ Well Related
8. In relation to the objectives of the introduction, the audiovisual materials (slides, tapes) were	____ Not Well Related	____ Somewhat Related	____ Well Related
9. In helping to launch other activities, the final activity of the introduction was	____ Ineffective	____ Somewhat Effective	____ Effective

Implementation Problems

10. Organizing and managing the introductory activities were	____Difficult	____Somewhat Difficult	____Easy
11. Using the printed materials (including posters) of the introduction was	____Difficult	____Somewhat Difficult	____Easy
12. Using the audiovisual materials was	____Difficult	____Somewhat Difficult	____Easy

13. Did you have any major problems using or preparing to use specific printed materials?

☐ Yes. (Please specify.) ____

____

____

☐ No.

14. Did you have any major problems using or preparing to use specific audiovisual materials?

☐ Yes. (Please specify.) ____

____

____

____

____

☐ No.

15. Did your students have any major problems in participating in specific activities of the introduction?

☐ Yes. (Please specify.) ____

____

____

____

____

☐ No

16. Were there any places in the introduction where you found it necessary to intervene to maintain student interest, motivation, and/or the flow of the activities?

☐ Yes. (Please specify.) ____

____

____

☐ No.

SECTION II: PERCEPTIONS OF STUDENT OUTCOMES

Check the Percentage of Students Whom You Feel . . .

	Percentage of Students			
	0–25%	26–50%	51–75%	76–100%
17. ENJOYED/LIKED:				
Reading and filling in the "RIGHT IN/WRITE ON"	____	____	____	____
Using the slide/tape show	____	____	____	____
Listening to the music & songs	____	____	____	____
Initialing the "LIKES LIST" and writing comments about occupations	____	____	____	____
Consulting the cluster posters	____	____	____	____
Starting their personal "OCCUPATIONS ALBUM"	____	____	____	____
Writing "OCCUPATIONAL GRAFFITI"	____	____	____	____
18. UNDERSTOOD:				
The concept of exploring occupations	____	____	____	____
The concept of grouping occupations	____	____	____	____
The directions in the materials	____	____	____	____
The written material	____	____	____	____
The vocabulary used	____	____	____	____
19. SHOWED:				
Interest in the activities	____	____	____	____
Interest in exploring occupations after introduction was completed	____	____	____	____
Indifference to the introduction	____	____	____	____

SECTION III: OVERALL REACTIONS

20. What activities in the introduction were most and least appealing?

Most Appealing	Least Appealing
____	____
____	____
____	____

21. What activities in the introduction did the students enjoy most and what activities did they enjoy least?

Enjoyed Most	Enjoyed Least
______________________	______________________
______________________	______________________
______________________	______________________

22. How would you rate the introduction in relation to your students readiness or maturity?

______ Too Difficult ______ About Right ______ Too Easy

23. Would you use this introductory set of activities again in your class?

____ No. (Proceed to Question 25.) ____ Yes, with major changes. ____ Yes, with minor changes. ____ Yes, with no changes.

24. If you would use these activities again, which change(s) would you recommend for the slide tape? Check as many as apply)

______ Achieve similar effects through 16 mm. action movie
______ Combine the two parts of slide presentation into one
______ Have more narration
______ Have more comments from students
______ Have fewer comments from students
______ Leave as is except for minor modifications
______ Other. (Please specify.) ______________________________________

____

____

25. Would you recommend these activities for use by other teachers?

______ No ______ Yes, with some reservations ______ Yes

26. Overall, how would you rate the instructional quality of the introduction?

____ Very Poor ____ Poor ____ Average ____ Good ____ Very Good

In the space below, please describe any additional observations you have about the introduction. Included could be: interesting side effects that you have noted; problems that may have occurred; and your recommendations for improving/changing the introduction.

occupational exploration program

Your opinions again, please!

Pilot Test 1975

YOUR OPINIONS AGAIN, PLEASE!

Now you've tried more of the activities of exploring occupations. We would like to know how you felt about them. This is not a test and your answers will not be graded. Check the answer that best describes what you think about your experiences. Thanks for your help.

Fill In The Following Information

Name ______________________________ Date ____________________

School ______________________________ Sex (Male or Female) ____________

Grade _____ 7th _____ 8th Teacher ____________________

Below are a few sentences about the activities you have just participated in.

Check (✓) "Yes" if you agree with the sentence.
(✓) "No" if you do not agree with it.
(✓) "?" if you can't decide about your feelings.

Check Yes, No, or ?	YES	NO	?
1. I enjoyed doing the exploration activities.	____	____	____
2. I found I had interests and likes that I didn't know about before.	____	____	____
3. Other students my age would enjoy these activities.	____	____	____
4. I found I could solve problems that people really have on their jobs.	____	____	____
5. I want to continue to add to my own occupations album.	____	____	____
6. The teacher had to tell us what to do each day.	____	____	____
7. The Introduction to exploring occupations was a good beginning to the things we did.	____	____	____
8. I need to continue exploring occupations.	____	____	____
9. I learned about occupations that I might be interested in.	____	____	____
10. The materials were easy to read.	____	____	____
11. I enjoyed working with other students.	____	____	____

		YES	NO	?
12.	There were too many other students involved in the activities at the same time.	____	____	____
13.	There was usually enough space in my classroom to do the activities.	____	____	____
14.	I didn't like many of the things I did in these activities.	____	____	____
15.	I didn't really learn about different occupations from these activities.	____	____	____
16.	I would like to try more activities like these.	____	____	____
17.	I always knew from the directions what I was supposed to do.	____	____	____
18.	I didn't understand many of the ideas in the materials.	____	____	____
19.	It was too noisy to do many of these activities.	____	____	____
20.	I would rather have done the things the other students were doing.	____	____	____
21.	I learned I had skills and abilities that I didn't know about before.	____	____	____
22.	Some of the activities were too hard for me to do.	____	____	____
23.	I need to think more about what I want to be.	____	____	____
24.	Since I've tried the Occupational Exploration Activities, I feel I know more about:			
	a) Where different people work.	____	____	____
	b) How people work together on their jobs.	____	____	____
	c) How well people in different occupations like their work.	____	____	____
	d) What special skills are needed for different occupations.	____	____	____
	e) How the community benefits from the work a person does.	____	____	____
	f) What a person is responsible for doing in an occupation.	____	____	____
	g) The steps people need to follow to finish a job.	____	____	____

WHAT DID YOU TRY?

CHECK (✓) ALL THE THINGS YOU TRIED AND THEN FOLLOW THE ARROW . . .

☐ TOUCHPOINT II (simulation) ➡ GO TO THE GREEN PAGE

☐ CLEAN

☐ WELL ➡ GO TO THE BLUE PAGE

☐ SPEAK-OUT

Answer these questions if you were in **TOUCHPOINT II**

Check (✓) Yes, No, or ?

		YES	NO	?
1.	After seeing the slide show, "Trouble in Fremont" I was interested in Touchpoint II.	____	____	____
2.	The Interest Search helped me to choose the role I wanted.	____	____	____
3.	It was a lot of fun being part of Touchpoint II.	____	____	____
4.	I wish Touchpoint II lasted longer.	____	____	____
5.	I had enough information to do all my work.	____	____	____
6.	Other students my age would enjoy these activities.	____	____	____
7.	Touchpoint II would be more interesting for younger students.	____	____	____
8.	All the things we did in Touchpoint II seemed to fit together well.	____	____	____
9.	I learned a lot from my role.	____	____	____
10.	At times, I had nothing to do.	____	____	____
11.	At times, I had too much to do.	____	____	____
12.	The Council Meeting provided a good ending for Touchpoint II.	____	____	____
13.	The drawings helped me to understand the materials.	____	____	____
14.	I enjoyed the role I played in Touchpoint II.	____	____	____

15. Check (✓) your Role in Touchpoint II.

____ Director
____ Assistant Director
____ Doctor
____ Nurse
____ Medical Technician
____ Caseworker
____ Psychologist
____ Probation Officer
____ Volunteer

Thanks for your help. Please give this questionnaire to your teacher when you are done with this page.

Answer these questions if you tried **Speak-out** or **Well** or **Clean**

Check (✓) Yes, No, or ?

SPEAK-OUT	YES	NO	?
1. I would like to interview more people in different occupations.	____	____	____
2. I now know a lot of questions to ask someone in a job.	____	____	____
3. I never thought of talking to people about their work before.	____	____	____
4. All people feel the same about their jobs.	____	____	____
5. I didn't have any trouble using the tapes and the recorder.	____	____	____
6. This activity wasn't very interesting.	____	____	____
7. There were too many students trying to listen at one time.	____	____	____
WELL			
8. The story about Sandy was fun to read.	____	____	____
9. The drawings helped me to understand the materials.	____	____	____
10. The activity was too short.	____	____	____
11. The story was easy to read.	____	____	____
12. I had no trouble understanding what I was supposed to do.	____	____	____
13. "Well" would be more interesting for younger students.	____	____	____
CLEAN			
14. The story of a day in Mr. A's life was fun to read.	____	____	____
15. The school custodian does a lot of things that I didn't know about before.	____	____	____
16. It was sometimes difficult to follow directions.	____	____	____
17. I'm not sure I understood what "Clean" was about.	____	____	____
18. Other students my age would like "Clean."	____	____	____
19. The drawings in "Clean" helped me to understand the materials.	____	____	____
20. The floor plan of the school helped me to understand all the places where the school custodian is needed.	____	____	____

Thanks for your help. Please give this questionnaire to your teacher when you are done with this page.

Occupational
Exploration
Program

Post Cluster Package
Student Interview Form

Student Name ______________________ Sex (M or F) __________ Date __________

Teacher Name ______________________ Grade (7th or 8th) ______________

School ______________________ City ______________________

Interviewer ______________________

First Part of the Interview

1. Introduce yourself.
2. Explain purpose of interview: to find out the student's feelings about the Occupational Exploration activities in which he/she has participated in order to help us improve them.
3. Ask student for name; fill out information above.

Second Part of the Interview

(Now say to student)

Now I'll read some questions to you, and you just give me your answers, OK?

Y No ?
☐ ☐ ☐ 1. Do you have any ideas of what occupations you might be interested in?

(If yes) What? ______________________

____

Y No ?
☐ ☐ ☐ 2. Had you thought much about exploring occupations before participating in this program?

(If yes) What kinds of things had you thought about or done?

____

____

3. When do you feel a person should start thinking about an occupation? (How old should they be?) ______________________

____

____

4. What are the most important things you feel you should consider before choosing an occupation? (Probe) (What are some of the things you might like or not like about a job?) ____________________________

____

____

____

Yes ☐ No ☐

5. Did you participate in Touchpoint II?

(If "yes", go to page 4; if "no", continue)

(FOR STUDENTS PARTICIPATING IN EXPLORATORY ACTIVITIES OTHER THAN THE SIMULATION)

6. For each activity you tried, I'm going to ask you to tell me the things you liked most and the things you liked least.

a) SPEAKOUT

es ☐ No ☐

Did you try "SPEAKOUT"?

(If No, mark "No" and Skip to "CLEAN")

Liked Most	Liked Least
______________________	______________________
______________________	______________________
______________________	______________________

b) CLEAN

es ☐ No ☐

Did you try "CLEAN"?

(If No, mark "No". Skip to "WELL")

Liked Most	Liked Least
______________________	______________________
______________________	______________________
______________________	______________________

c) [illegible]

Yes ☐ No ☐ Did you try "WELL"?

(If No, Mark "No" and skip to #7 below)

Liked Most	Liked Least
______________________________	______________________________
______________________________	______________________________
______________________________	______________________________

Yes ☐ No ☐ ? ☐ 7. Since you participated in these activities, do you feel you're getting more ideas about what you might like to do when you're older?

Yes ☐ No ☐ ? ☐ 8. Did you have any special problem doing any of the activities?

(If yes) What were they?

____

____

9. If you could change anything in the activities to make them better, what things would you change?

____

____

____

____

____

____

____

10. What one word would you use to describe or tell how you feel about the things or activities that you did? ______________________________

(Say to student)

Okay, that's it. Your answers will really help make the activities better the next time other students use them. Thanks for your help.

(End)

(FOR STUDENTS PARTICIPATING IN SIMULATION)

6. What role did you play in the simulation? ____________________

Yes ☐ No ☐ ? ☐ Did you like your role? ____________________

What did you like or dislike about it? ____________________

____

7. a) What do you think other students would like most about the simulation?

____

____

b) What do you think they would like least? ____________________

____

____

Yes ☐ No ☐ ? ☐ 8. Did you have any special problems doing the simulation? (Things you didn't understand or places that you didn't know what to do next?)

(If yes) What were they?

____

____

Yes ☐ No ☐ ? ☐ 9. Did you feel the simulation was realistic? (That it gave you a true picture of what the occupations might be like?)

(If No) Why not? ____________________

____

Yes ☐ No ☐ ? ☐ 10. Since you participated in the simulation, do you feel you're getting more ideas about what you might like to do when you're older?

Yes ☐ No ☐ ? ☐ 11. Did the other activities going on in the room bother you during the simulation?

(If yes) In what way? ____________________

____

____

____

____

____

12. If you could change anything about the simulation to make it better, what things would you change? ____________________

13. What one word would you use to describe or tell how you feel about the simulation? ____________________

(Say to student)

Okay, that's it. Your answers will really help make the activities better the next time other students use them. Thanks for your help.

(End)

occupational exploration program

top

Teacher Overall Perceptions Pilot Test 1975

Teacher
Overall
Perceptions

Name____________________

School____________________

City____________________

Date____________________

DIRECTIONS: To respond, simply check (✓) the phrase that best describes your response or fill in the requested information. Space has been provided at the end of this questionnaire for you to write in any comments and suggestions you have. When you have completed this questionnaire, please return it to the individual who will be interviewing you. Thank you for your help and cooperation.

SECTION I: How Well Did the Entire Cluster Package Work?

1.	Excluding the Introduction, your preparation for the cluster package each day required	____½ hour or less	____1 hour	____More than 1 hour
2.	As a starting point for other activities, the "Introduction to Occupational Exploration" was	____Ineffective	____Somewhat ineffective	____Effective
3.	The assignment of students to activities (simulation and other activities) was	____A problem throughout the activities	____A problem only at the beginning	____No problem
4.	Students were able to follow directions with	____Much teacher assistance	____Some teacher assistance	____Little teacher assistance
5.	Most of the time, the sound level in the classroom was	____Intolerable	____Somewhat intolerable	____About right
6.	In terms of space needed to implement the activities, my classroom was	____Inadequate	____Somewhat inadequate	____Adequate
7.	In terms of managing the activities, the class (the number of students) was	____Too large	____A little too large	____About right

8. Circle the maximum number of major activities which you managed at one time.	1	2	3	4	5	6	7	8
9. Circle the maximum number of major activities which you feel you could manage successfully at one time.	1	2	3	4	5	6	7	8
10. Circle the maximum number of simulations which you feel you could manage successfully at one time.	1	2	3	4				

11. Fill in the number of class periods required for the simulation and other exploratory activities.	____Simulation	____Other Activities
12. Fill in the number of students participating in the simulation and other exploratory activities.	____Simulation	____Other Activities

13. Did you have any major problems using or preparing to use specific printed materials in the cluster package?

☐ No
☐ Yes, (Please specify) ______________________________

____

____

14. Did you have any major problems using or preparing to use specific audiovisual materials in the cluster package?

☐ No
☐ Yes, (Please specify) ______________________________

____

____

SECTION II: In-service Training

For introducing the overall nature of the Occupational Exploration Program, the in-service training was	____Ineffective	____Somewhat ineffective	____Effective
For introducing the details of specific materials, the in-service training was	____Ineffective	____Somewhat ineffective	____Effective
The in-service training provided me with	____Very few ideas	____Some ideas	____Many ideas

SECTION III: Perceptions of the Simulation

Part A

Was the preview effective in motivating students?	____ No	____ Somewhat	____ Yes
Was there enough information for students to select roles?	____ No	____ Somewhat	____ Yes
Were the simulation materials generally well written?	____ No	____ Somewhat	____ Yes
Did the illustrations increase student understanding of the simulation materials?	____ No	____ Somewhat	____ Yes
Did the situations in the simulation maintain student interest?	____ No	____ Somewhat	____ Yes
Did the students possess adequate skills to do the activities?	____ No	____ Somewhat	____ Yes
Did the summary provide an incentive to explore occupations further?	____ No	____ Somewhat	____ Yes

Were there any places in the simulation where you found it necessary to intervene to maintain student interest, motivation, and/or the flow of activities?

☐ No
☐ Yes, (Please specify) ______________________________
____

Part B

For those students participating in the "**TOUCHPOINT II**" simulation, check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in TOUCHPOINT II	____	____	____	____
Having a realistic occupational problem to solve	____	____	____	____
Playing different occupational roles	____	____	____	____
Learning about different occupations	____	____	____	____
Working with other students	____	____	____	____
Exploring occupations	____	____	____	____
Understood:				
The directions	____	____	____	____
The written materials	____	____	____	____
The vocabulary	____	____	____	____
The intent of the activities	____	____	____	____
The intent of the entire package	____	____	____	____
The importance of exploring occupations	____	____	____	____

SECTION IV: Perceptions of the Other Exploratory Activities

Part A

Was it easy for students to [illegible] from one activity to another?	___ No	___ Somewhat	___ Yes
Were these other exploratory activities reasonable complements to the simulation?	___ No	___ Somewhat	___ Yes
Did these activities hold the student's interest?	___ No	___ Somewhat	___ Yes
Did the stories included in many of the activities appeal to students?	___ No	___ Somewhat	___ Yes
Did the illustrations increase student understanding of the activities?	___ No	___ Somewhat	___ Yes
Were the materials generally well written or structured?	___ No	___ Somewhat	___ Yes

Were there any places in these other exploratory activities where you found it necessary to intervene to maintain student interest, motivation and/or the flow of activities?

☐ No
☐ Yes, (Please specify) ______________________________

____

Part B

For those students participating in **"WELL," "CLEAN"** and **"SPEAK-OUT,"** check the percentage who you feel:

	Percentage of Students			
Enjoyed/Liked:	0-25%	26-50%	51-75%	76-100%
Participating in:				
WELL	___	___	___	___
SPEAK-OUT	___	___	___	___
CLEAN	___	___	___	___
Learning about different occupations	___	___	___	___
Working with other students	___	___	___	___
Exploring occupations	___	___	___	___
Understood:				
The directions	___	___	___	___
The written material	___	___	___	___
The vocabulary	___	___	___	___
The intent of the activities	___	___	___	___
The intent of the entire package	___	___	___	___
The importance of exploring occupations	___	___	___	___

SECTION V: Overall Considerations

Which activities (Touchpoint II, Clean, Well, Speak-Out, other exploratory activities) in the cluster package did you **Like Most** and which did you **Like Least?**

Liked Most	**Liked Least**
______________________	______________________
______________________	______________________
______________________	______________________

How would you rate the overall set of activities in terms of the students maturation level?

____Too Difficult ____About Right ____Too Easy

Check which materials you would and would not use again:

	Would use	Would not use
Introduction	____	____
Simulation	____	____
"Clean"	____	____
"Speak Out"	____	____
"Well"	____	____

Overall, how successful do you think the program was in terms of:

a) Feasibility in the classroom?	b) Expanding student awareness of occupations?
____Very Unsuccessful	____Very Unsuccessful
____Unsuccessful	____Unsuccessful
____Average	____Average
____Successful	____Successful
____Very Successful	____Very Successful

Overall, how would you rate the instructional quality of the cluster package?

____ Very Poor ____ Poor ____ Average ____ Good ____ Very Good

In the space below, please describe any additional observations you have about the program. Included could be: interesting side effects that you have noted; problems that may have occurred; and your recommendations for improvement/change.

TEACHER INTERVIEW

Teacher Name ______________________ School ______________________

City ______________________ Grade ______________________

Cluster Taught ______________________ Date ______________________

Interviewer's Name ______________________

IN-SERVICE TRAINING PROGRAM

Yes ☐ No ☐

1. Did the in-service training program help you to use the materials?

   What information in the in-service session was most useful to you?

2. What additional information would have helped you?

3. Can you recommend any changes that would improve the in-service? (Probe: Things that would have made the time spent more meaninful to you.)

Yes ☐ No ☐

4. What additional information would have helped you? Did the teacher's guide help you to use the materials?

5. Before using the OEP materials, how difficult did you initially perceive the implementation of the materials would be? ____________________

Now that you have used the OEP materials, how difficult would it be to use the materials a second time? ____________________

IMPLEMENTATION PROBLEMS

6. Initially, how did students get into the different activities? Did students volunteer? Were they assigned? ____________________

Yes	No	
☐	☐	7. Did the placement of students in activities pose specific implementation problems? If yes, what were the problems? ________________

8. What special problems did you encounter when using the simulation?

9. What special problems did you encounter when using the other exploratory activities? ________________

Yes ☐ No ☐ 10. Were there problems arising from the concurrent use of the simulation and the exploratory activities? (Probe: Such as classroom management or student behavior problems).

(If Yes)

b) What were these problems? ______________________________

____

____

____

Yes ☐ No ☐ c) Do you feel that these problems would jeopardize implementation of the program on a larger scale in the schools? If yes, Why?

____

____

____

11. If you were to use these activities again, how would you integrate them into your regular classroom activities? (e.g., use as a complement to regular lesson plans, use independently as a unit, space throughout the curriculum?)

____

____

____

12. Could you describe the general nature of your class? (Probe: What is the students' range of ability, their motivational level, etc.)

____

____

____

____

____

____

Yes No

☐ ☐ 13. Do you feel there are students who would have trouble using these materials?

(If Yes) What characteristics do you feel they would have? ____________

14. Were there unexpected student outcomes that you experienced in your classroom? (Probe: Such as student involvement, interest or response) If so, what? ____________

15. What overall recommendations or comments would you like to make in order to improve the materials or their implementation? ____________

Thanks for your help and cooperation with us in using the OEP materials. We hope you found the experience worthwhile for yourself and your students, and that you will be able to use at least some of the materials in your classroom again next year.